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GENERAL CONTRACT REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

19 CFR 24.24	Harbor Maintenance Fee
33 CFR 156	Oil and Hazardous Material Transfer Operations

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

ENGINEERING REGULATIONS (ER)

ER 1-1-11	(1995) Progress, Schedules, and Network Analysis Systems

1.2 PARTNERING

To enhance the potential for success on this contract, the Government encourages formation of a project partnership among all stakeholders (Government, Contractor, Subcontractors, Suppliers and Customer as appropriate). Project partnering provides a structured management approach to facilitate teamwork across contractual boundaries. This proposed partnership would strive to develop a cooperative working relationship to jointly establish and effectively reach mutual project execution goals. Participation in such a partnership will be totally voluntary. The partnering process would normally include an initial offsite kickoff meeting and follow-on maintenance meetings as agreed by the partnership. Costs of such meetings would be shared between the Government and the contractor, based on a mutual agreement, without change to the contract price. The partnering process will in no way relax nor stiffen the requirements of the contract, but enhance the likelihood of success through improved working relationships.

1.3 RIGHTS-OF-WAY

a. The rights-of-way for the work to be constructed under this contract, within the limits indicated on the drawings, will be provided by the Government without cost to the Contractor. If these rights-of-way are used by the Contractor, he shall, at his own expense, do all work necessary to make such rights-of-way suitable for traveling to and from the worksite. Upon completion of the Contractor's work, any such rights-of-way furnished by the Government shall be left in a

condition satisfactory to the Contracting Officer.

b. When so directed by the Contracting Officer, the Contractor shall, without expense to the Government and at any time during the progress of the work when it is not being actively used for contract operations, promptly vacate and clean up any part of the Government grounds or rights-of-way that have been allotted to or have been in use by the Contractor.

c. The Contractor shall not obstruct any existing roads on lands controlled by the United States except with written permission of the Contracting Officer and shall maintain such roads in as good condition as exists at the time of commencement of work under this contract.

d. The Contractor shall procure, without expense to the Government, all additional lands, access roads, or rights-of-way necessary for his use in the performance of the work or as required by his method of operation. The Contractor shall submit written evidence to the Contracting Officer that he has obtained the rights-of-way from the property owners. The written evidence shall consist of an authenticated copy of the conveyance under which the Contractor acquired such rights-of-way, prepared and executed in accordance with the laws of the State in which the land is located. The Contractor shall also obtain from the owners a release for the Government for any damages which may result from his use of such rights-of-way. The written conveyance and release shall be provided to the Government prior to use of Contractor obtained additional lands, access roads, or rights-of-way. If temporary rights-of-way are obtained by the Contractor the period of time for those rights shall coincide with Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK, plus a reasonable time for any extension granted for the completion of the work. Any agreements or permits with levee boards, counties, parishes, municipalities, or other political subdivisions for moving material and equipment will be the responsibility of the Contractor and will be obtained at no expense to the Government. Any delays to the Contractor resulting from delays in procuring such additional lands, access roads, rights-of-way, or permits for moving material and equipment for his work under this contract will not be a basis for any claim for increase in the cost of this contract. The Contractor shall make his own investigations to determine the conditions, restrictions and difficulties which may be encountered in acquiring such rights-of-way and in the transportation of material and equipment. In addition, the Contractor shall be solely liable for any and all damages and claims of any nature whatsoever arising from or growing out of the acquisition and use of rights-of-way, etc. other than those furnished by the Government.

e. Notwithstanding any language or drawings to the contrary in this contract, the United States will not provide access or rights-of-way over any public lands and will not be responsible for acquiring such.

f. The Contractor shall repair at no expense to the Government, any and all damage to any existing roads when such damage is a result of his operations under this contract. (CEMVK-OC, 1989)

1.4 PRECONSTRUCTION CONFERENCE

a. A preconstruction conference will be arranged by the Area Engineer as soon after contract award as possible, and the conference will be

conducted before work is allowed to commence. The Area Engineer will notify the Contractor of the time, date, and location for the meeting. At this conference, the Contractor will be oriented with respect to contract administration procedures, lines of authority, and construction matters. All known subcontractors performing at least 20 percent of the contract are required to attend this conference. Additional conferences may be established by the Area Engineer for any major subcontractors unknown at the time of the initial conference.

b. Submission by the Contractor of the items listed below will determine the date of the conference. The following items shall be submitted to the Area Engineer for review at least seven (7) calendar days prior to the preconstruction conference:

(1) Accident Prevention Plan

(2) Environmental Protection Plan

(3) Quality Control Plan

c. The Contractor shall bring to this conference, in completed form the following:

(1) Letter of superintendent appointment and authority

(2) List of subcontractors

d. The Contractor should bring to this conference, or at least be prepared to discuss, the following:

(1) Submittal register

(2) Network Analysis System (as applicable)

e. Minutes of this conference will be taken and prepared by the Area Engineer and sent to the Contractor for his concurrence and signature.

1.5 SUBMITTAL OF SUBCONTRACTING PLAN

a. This paragraph does not apply to small business concerns.

b. After bid opening, and within 7 days, the apparent low bidder, upon telephone notification by the Small and Disadvantaged Business Utilization Specialist, shall submit a Small and Disadvantaged Business Subcontracting Plan. The plan shall be submitted in accordance with Contract Clauses UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL DISADVANTAGED BUSINESS CONCERNS and SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PLAN, ALTERNATE 1, and the person responsible for administering the plan shall be named in paragraph AGENT FOR SUBMITTING SMALL BUSINESS AND BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PLAN of the Representations and Certifications.

1.6 NOTIFICATION OF AREA ENGINEER BEFORE BEGINNING WORK

At least 7 days before beginning work, the Contractor shall notify Mr. Gordon O. Inman, Area Engineer, Greenwood Area Office, P.O. Box 946, Greenwood, Mississippi 38935-0946, Telephone (601) 453-5531.

1.7 ORDER OF WORK

The work shall be carried on in accordance with the Network Analysis System (schedule) required by paragraph "(a)" of the Contract Clause SCHEDULES FOR CONSTRUCTION CONTRACTS. In preparing the Network Analysis System (schedule), the Contractor shall give the following priorities to work:

Unless otherwise directed by the Contracting Officer, dredging operations shall commence at the upper end of the channel work and proceed continuously downstream to the lower end of the channel work. At no time shall more than one hydraulic dredge discharge into the disposal facility. Channel excavation shall be completed and accepted prior to beginning bank stabilization work. The construction sequence for bank stabilization work shall be in accordance with Section 02543 BANK STABILIZATION.

1.8 SUSPENSION OF WORK

Except as provided in Section 02543 BANK STABILIZATION, paragraph STAGE LIMITATIONS and Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, the Contractor will not be permitted to suspend work after the work has been started or remove any equipment from the location of any work under this contract without prior approval of the Contracting Officer.

1.9 CONTRACTOR-PREPARED NETWORK ANALYSIS SYSTEM

1.9.1 General

The progress chart to be prepared by the Contractor pursuant to the Contract Clause entitled SCHEDULE FOR CONSTRUCTION CONTRACTS shall consist of a Network Analysis System (NAS) as described herein. In preparing this system, the scheduling of construction is the responsibility of the Contractor. Terminology relating to the NAS will be as in "The Use of CPM in Construction, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, INC. (AGC 1976)".

1.9.2 System Description

An example network system is shown in Appendix A of ER 1-1-11, single copies of which are available to bona fide bidders on request. The system shall consist of diagrams and accompanying mathematical analyses. Precedent diagramming (activity on node) will not be an acceptable alternative to the system described herein.

1.9.3 System Operation

a. Personnel. The Contractor shall employ, at the site, an individual knowledgeable with NAS preparation procedures and the Contractor's proposed construction sequence. The Contractor shall have the individual(s) attend the update meetings who is an on-site representative and knowledgeable of the construction work being performed on the job and has the authority to make schedule decisions and commitments at these update meetings. The use of an on-site computer is at the Contractors option. Network analysis computer programs shall be used. Acceptable programs are "Primavera" or its equivalent.

b. Administration. The requirement for the system is included to assure adequate planning and execution of the work and to assist the

Contracting Officer in appraising the reasonableness of the proposed schedule and evaluating the progress of the work. The schedule shall be submitted to the Contracting Officer for review and approval. However, this approval shall in no way obligate the Government to the logic, duration, costs, etc. After the network has been approved, the Contractor shall not change or deviate from the schedule logic or duration's without prior approval by the Contracting Officer or his Authorized Representative. Any request to deviate or change from the approved schedule shall be accompanied by a diagram of the proposed change, and a detailed written explanation for the change which includes how the remaining activities will be impacted. This shall be accomplished by a mathematical analysis. The Contractor shall submit twice a month-minimum of two weeks apart) updates to the NAS which must be accomplished and approved prior to all requests for progress payments. These updates will not be used to request changes in logic or duration. The updates shall consist of a narrative, a revised diagram and data reflecting the NAS update (mathematical analysis).

c. Preparation. The Contractor shall submit, minimum of 7 days prior to the preconstruction conference, a detailed -preliminary network diagram defining his planned operations during the first 120 calendar days after the date of receipt of Notice to Proceed and the Contractor's general approach to the balance of the project. Cost of activities expected to be completed or partially completed before submission and approval of the whole schedule should be included. The preliminary network will be discussed at the preconstruction conference. The Contractor shall, within 40 calendar days after date of receipt of the Notice to Proceed, submit a complete detailed Network Analysis System consisting of the mathematical analysis, schedule of anticipated earnings as of the last day of each month, network diagrams and table of activities. The table of activities shall list the network identification (I-J node number), the name of the activity as listed on the network diagram, a detailed description of all work involved in each activity, the activity duration in work days, the volume and unit of work involved, the monetary value of the activity, and the detailed work involved in the activity. (If the activity duration includes severe weather days provide which activities and the number of severe weather days included). This table shall not include items such as late/early, start/finish, etc. Skip numbering should be used on the networks to allow addition of subsequent activities for change orders and logic changes. The network diagram shall be neatly drafted and lettered on 30 by 42 inch sheets. On all submittals, the Contractor shall submit one good quality, full scale reproducible, and 3 half scale copies. Each updated copy shall show the date of the latest revisions. The diagram shall show the interrelation of activities. The selection and number of activities shall generally not exceed 20 work days duration. Constraint activities shall be limited to only those required to show the interrelationship between the work activities and those constraints considered not necessary by the Contracting Officer will not be allowed. Detailed network shall be drafted to show a continuous flow from left to right with no arrows from right to left. Diagrams do not have to be time scaled. The following information shall be shown on the diagrams for each of the activities:

(1) preceding and following event number

(2) title of the activity

(3) cost

(4) activity duration in work days

Activities of submittal actions, material delivery, fabrication and testing requirements and Government actions shall be included. Submittal approvals shall have minimum duration of 45 calendar days. The following information should be able to be obtained from the furnished data for each activity shown on the detail network:

(1) Preceding and following event numbers

(2) Activity title

(3) Estimated duration of activities in work days

(4) Earliest start date (by calendar date)

(5) Earliest finish date (by calendar date)

(6) Actual start date (by calendar date)

(7) Actual finish date (by calendar date)

(8) Latest start date (by calendar date)

(9) Latest finish date (by calendar date)

(10) Slack or float (in work days)

(11) Remaining duration (in work days)

(12) Bid item of which activity is a part

(13) Cost of activity

d. System Review. The Contracting Officer will be allowed 20 work days for the initial review of the complete detailed network submittal, after which the Contractor shall participate in a review and evaluation conference of the proposed network diagram and analysis with the Contracting Officer. Any revisions necessary, as a result of this review shall be resubmitted for approval of the Contracting Officer within 10 work days after the conference. If subsequent submittals are necessary, both the Contracting officer and Contractor will be allowed 5 work days respectively. The approved schedule shall then be the schedule to be used by the Contractor for planning, organizing and directing the work, reporting progress for the work accomplished. No progress payments will be made after 120 calendar days after the notice to proceed unless the completed detailed Network Analysis System is approved.

e. Progress Reporting/Updating. The Contractor shall submit to the Contracting Officer within 2 work days after the established cut off date, progress and logic changes (historical or projected) on forms as approved by the Contracting Officer and revisions to the diagram to reflect the logic changes. Activities worked out of sequence during the update period are considered logic changes which are to be revised

to reflect actuals. Changes in the sequence of projected activities anticipated are considered logic changes which shall be revised to reflect the anticipated sequence. The Contractor shall submit, in writing, the reason for each logic change whether it be historical or projected. The updated activities will indicate the actual start date, remaining duration (work days) to complete, or actual completion days. Within 3 work days after receipt of the Contractor's progress and logic changes have been submitted, a joint update meeting shall be held at the field site between the Contractor's NAS personnel and the Contracting Officer's Representative to discuss and agree on the updates and changes. Any revisions to the logic changes and up dates agreed to at this meeting shall be incorporated in the schedule before submitting the updated analysis report, revised half scale diagram and computer copy on a floppy disk. The report shall state the work actually completed and scheduled as of the report date and the progress in terms of days ahead or behind the allowable dates. The Contractor shall also submit a narrative report with the update analysis which shall include but not be limited to a description of the problem areas, current and anticipated delaying factors and their impact, and an explanation of corrective actions taken or proposed. The mathematical analysis of the approved update shall be furnished in the following sorts or groups.

(1) By preceding event number from lowest to highest, then in order of the succeeding event number (I-J).

(2) By the total float (slack), from the lowest to the highest, then in order of early start from earliest to latest.

(3) Sort listing on all long lead and other procurement items by order of total float (from lowest to highest) then by preceding, then by succeeding event. This output may be restricted to the previous update and succeeding six (6) months.

(4) Sort on activities by early start to reflect all submittals to the Government. This output may be restricted to the previous update and succeeding six (6) months.

(5) A copy of the computer disk with the updated network schedule shall be submitted with each update for review. A copy of the computer disk with the bimonthly approved schedule shall also be furnished.

No monthly progress payments will be made until the updates have been approved. No progress payments will be made to the Contractor for any work done that is not progressing in accordance with the approved schedule. Payments for such activities will be withheld until the approved schedule is regained or a revised schedule reflecting the new work sequence is approved. If the Contractor does not properly revise and attempt to follow the approved schedule, progress payments for work done during the period when there is no approved schedule will be held by the Contracting Officer until the project is back on the approved schedule.

f. Float. Total float 15 defined as the amount of the time between the early start date and the late start date of the early finish date and the late finish date for any activity on the project schedule. It is the amount of time any given activity or path may be delayed before it will effect the project completion date. Float is not time for the

exclusive use or benefit of the Government or the Contractor; but must be used in the best interest of completing the project on time.

g. Critical Path. The critical path or paths is only the path or paths of activities with the greatest number of days duration from the start to the completion of the project. The project completion date shall be fixed (not allowed to move) unless it is officially extended, thus the total float will be expressed as plus or negative float. The critical path will be the path with the negative float or the lowest plus float which will determine if the project is behind or ahead of schedule.

h. Modifications/Notice to Proceed. The Contractor shall indicate in his proposals for all contract changes by node/event numbers, the activities affected, activities added or deleted, and a subnet indicating how the change is to be added or deleted from overall diagram. The affect shall be indicated for each activity in both time and money. Each updating shall include revisions incorporated into the system by all notice to proceeds and finalized modifications on the next succeeding updating report after the date they were issued. Revisions to the Contractor's inclusions in the network for notice to proceeds, in logic and, or duration time changes, may be made by the Contracting Officer and used in all subsequent updating reports until such time that the time has been settled or until actual dates have occurred. Inclusion in the network and use of the revised logic and/or duration time estimates for updating, whether furnished by the Contractor or by the Contracting Officer, will not be construed as extensions of time to the dates required in the contract. These changes are for the purpose of keeping the schedule up to date to reflect the work to be accomplished and to include the best time estimates for work yet to be completed. Contract time extensions not agreed to prior to actually completing the work will be based on actuals as shown on this schedule, which will negate the use of any other methods. When a request for proposal is issued, the Contractor shall submit a subnet with his proposal indicating the effect of the revised work on the approved schedule and contract completion date.

i. Contract Time Adjustment. The contract completion date will be adjusted by either adding or deleting the number of days the incorporated Notice to Proceed or signed modification affects the current completion date, which is accomplished by revising logic and/or durations of activities.

1.10 DESIGNATED BILLING OFFICE

The designated billing office for this contract shall be the U.S. Army Corps of Engineers, Greenwood Area Office, P.O. Box 946, Greenwood, Mississippi 38935-0946.

1.11 PAYMENT INVOICES

(a) The Federal Acquisition Regulation requires that the "REMIT TO" address on the invoice match the "REMIT TO" address on the contract or a proper notice of assignment. The Payment Office will verify a match of the "REMIT TO" address in the contract and Contractor’s invoice prior to payment. If the addresses do not match, the invoice will be determined improper and returned to the contractor for correction and resubmission. If an invoice is improperly returned, the original invoice receipt date shall be used as the basis for determining

interest to be paid in accordance with the PROMPT PAYMENT ACT.

(b) Among other things, the Contract Clause PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS requires that a proper invoice for payment include substantiation of the amounts requested. As required in Office of Management and Budget, Circular A-125 (Rev.), PROMPT PAYMENT, dated December 12, 1989, substantiation of the amount requested for progress payments under construction contracts includes the following:

(1) An itemization of the amounts requested related to the various elements of work required by the contract covered by the payment request;

(2) A listing of the amount included for work performed by each subcontractor under the contract;

(3) A listing of the total amount of each subcontract under the contract;

(4) A listing of the amounts previously paid to each such subcontractor under the contract; and,

(5) Additional supporting data in a form and detail required by the contracting officer.

(c) Failure to include the above information in a Contractor’s invoice will result in the invoice being considered defective under the provisions of the PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS clause of the contract, and it will be returned to the contractor for correction and resubmission. (CEMVK-OC, 1997)

1.12 TEMPORARY PROJECT FENCING

Temporary project fencing as required by Section 4, "Temporary Facilities", paragraph 04.A.04 of EM 385-1-1, "Safety and Health Requirements Manual", dated 3 September 1996, is not required on this project.

1.13 PROJECT SIGN (APR 1991)

The Contractor shall fabricate, erect and maintain one sign for project identification. The sign shall be displayed and positioned for reading by passing viewers. The exact location is subject to Contracting Officer's approval. Information for the right side of the project sign shall be as follows:

Title:	UPPER YAZOO PROJECTS, ITEM 4A CHANNEL IMPROVEMENT RIVER MI. 152.47 TO RIVER MILE 161.08
Project:	FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES YAZOO BASIN, MISSISSIPPI LEFLORE COUNTY, MISSISSIPPI
Contract No:	DACW38-00-C-____
Contractor:	(Contractor's name and city)

The project identification sign shall meet the requirements specified in

the U.S. Army Corps of Engineers Sign (USACES) Standards Manual, EP 310-1-6a and EP 310-1-6b. A copy of the sign standards manual is available for review at the office of the Vicksburg District Sign Program Manager and questions concerning manufacture and installation of the project identification sign may be addressed to:

Vicksburg District Sign Program Manager (Lawran Richter)
ATTN: CEMVK-OD-MN
4155 Clay Street
Vicksburg, MS 39183-3435
Telephone: (601) 631-5287

1.14 MINIMUM REQUIRED INSURANCE

The following paragraph is applicable if the services involved are performed on a Government Installation. Government Installation is defined as property where the Government holds by fee simple title, by construction right-of-way, or perpetual easement, etc., an interest in real property. See Contract Clause INSURANCE-WORK ON A GOVERNMENT INSTALLATION.

a. Workmen's Compensation and Employer's Liability Insurance. The Contractor shall comply with all applicable workmen's compensation Statutes of the State of Mississippi and shall furnish evidence of Employer's Liability Insurance in an amount of not less than $100,000.

b. General Liability Insurance. Bodily injury liability insurance in the minimum limits of $500,000 per occurrence on the comprehensive form of policy.

c. Automobile Liability Insurance. Minimum limits of $200,000 per person and $500,000 per occurrence for bodily injury and $20,000 per occurrence for property damage. This insurance shall be on the comprehensive form of policy and shall cover the operation of all automobiles used in performance of the contract.

d. Marine Insurance. Hull policy must be endorsed for towers liability (tow and cargo) and the amount of the policy must be supplemented by excess towers' liability in the minimum amount of $1,000,000, and also by excess protection and indemnity insurance in an amount not less than $1,000,000. All policies must be endorsed for navigation limits applicable to this contract. The United States Corps of Engineers, Vicksburg District, must be named as an additional insured on all policies, and the policies shall contain an endorsement waiving subrogation against the United States. In the event of material changes in coverage or of cancellation of any policy, written notice shall be given to the Contracting Officer at least 30 days prior to the effective date of such change or cancellation.

1.15 WORK IN QUARANTINED AREA

The work called for by this contract involves activities in counties quarantined by the Department of Agriculture to prevent the spread of certain plant pests which may be present in the soil. The Contractor agrees that all construction equipment and tools to be moved from such counties shall be thoroughly cleaned of all soil residues at the construction site with water under pressure and that hand tools shall be thoroughly cleaned by brushing or other means to remove all soil. In addition, if this contract involves the identification, shipping, storage, testing, or disposal of soils from such quarantined area, the Contractor

agrees to comply with the provisions of ER 1110-1-5, "Plant Pest Quarantined Areas and Foreign Soil Samples" attachments, a copy of which will be made available by the Contracting Officer upon request. The Contractor agrees to assure compliance with this obligation by all subcontractors.

1.16 AS-BUILT DRAWINGS

This paragraph supplements the Contract Clause SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION.

a. As-Built Contract Drawings. The Contractor shall maintain two (2) full-size sets of blue-line prints of the contract drawings depicting in red a record of as-built conditions. The Contractor shall also maintain a set of electronic CADD format design files. The original CADD format design files will be provided to the Contractor. The exact CADD file format shall be discussed with the Contracting Officer before work commences. These drawings, both electronic and blueline, shall be maintained in current condition at all times during the entire contract period. The drawings shall be updated daily by the Contractor showing all changes from the contract plans which are made in the work, additional information which might be uncovered in the course of construction, and information for future construction reference (such as debris disposed by burying). This information shall be recorded on the blueline prints accurately and neatly by means of details and notes. The electronic files shall be edited to reflect as-built conditions in accordance with the CADD standards. Each month, prior to submitting a request for progress payment, the Contractor shall review the as-built drawings with the Contracting Officer, and the Contractor shall certify that the as-built drawings are accurate and up-to-date before progress payment is made. The Contractor shall deliver to the Contracting Officer two (2) complete sets of the as-built marked prints at the time of the final inspection of the project. The as-built drawings shall be identified by entering the words "AS-BUILT DRAWINGS" in letters at least 3/16-inch high, placed below each title block.

b. As-Built Shop Drawings. Upon completion of individual features of work, the Contractor shall revise and resubmit any shop drawings for the feature as necessary to show as-built conditions. The notation "Revised to show as-built conditions" shall be placed in red in the lower right corner of each drawing, along with the initials of a responsible company representative. Each revised as-built shop drawing or catalog cut shall be resubmitted using ENG FORM 4025, enclosed at the end of Section 01330 SUBMITTAL PROCEDURES.

c. Electronic drawings and plates shall be prepared as required to present project details. All drawings shall be furnished in a Microstation design file compatible format and provided on ISO 9660 (International Standard Organization) format CD-ROM. All media shall be labeled with the following pertinent information: (1) the save set name if applicable, (2) the DOS or Windows NT version if applicable, (3) the date of creation, (4) a short description of the contents. A transmittal sheet containing the above information and the file names on each disk shall accompany the media set. Deliverables shall include all design files, cell libraries, matrix menus, database files, font libraries, ASCII xyz files or any other files used in the creation of the project. Two set(s) of electronic drawings on CD-ROM and one paper set of the electronic drawings shall be plotted and provided with all electronic format CADD files showing as-built conditions shall be

delivered to the Contracting Officer no later than 60 days after project transfer. All files and backups shall be of current version in operation by the Vicksburg District at time of contract award. The external design file specification, level assignments, line styles, and line weights shall be in accordance with the Tri-Service A/E/C CADD Standards Version 1.7 or latest version. These standards are a product of the Tri-Service CADD/GIS Technology Center at Waterways Experiment Station, Vicksburg, Mississippi. Information on obtaining copies of these standards may be accessed on the Internet World Wide Web at http://tsc.wes.army.mil.

1.17 CERTIFICATES OF COMPLIANCE

Any certificates required for demonstrating proof of compliance of material with specification requirement shall be executed in four (4) copies. Each certificate shall be signed by an official authorized to certify on behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date or dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.18 SAFETY

This contract is subject to the requirements of EM 385-1-1, "U.S. Army Corps of Engineers Safety and Health Requirements Manual", dated 3 September 1996. No separate payment will be made for compliance with the requirements thereof.

1.19 SAFETY SIGN

The Contractor shall fabricate, erect and maintain a safety sign at the site, as located by the Contracting Officer. The sign shall be erected as soon as practicable, but not later than 15 calendar days after the date established for commencement of work. The data required shall be current. The safety sign shall meet the requirements specified in the U.S. Army Corps of Engineers Sign (USACES) Standards Manual, EP 310-1-6a and EP 310-1-6b. A copy of the sign standards manual is available for review at the office of the Vicksburg District Sign Program Manager and questions concerning manufacture and installation of the safety sign may be addressed to:

Vicksburg District Sign Program Manager (Lawran Richter)
ATTN: CEMVK-OD-MN
4155 Clay Street
Vicksburg, MS 39183-3435
Telephone: (601) 631-5287

1.20 ACCIDENT PREVENTION PLAN

Refer to Contract Clause ACCIDENT PREVENTION (Alternate I). Within 15 days after receipt of award of the contract, an Accident Prevention Plan shall be submitted to the Contracting Officer for review and acceptance. The plan shall be prepared in the following format:

a. An executed LMV FORM 358-R, "Administrative Plan" (available upon request), see Appendix A, "Minimum Basic Outline for Accident Prevention Plan" of EM 385-1-1.

b. An executed LMV FORM 359-R, "Activity Hazard Analysis" (available upon request), see paragraph 01.A.09 and figure 1-1 of EM 385-1-1.

c. A copy of company policy statement regarding accident prevention.

d. When marine plant and equipment are in use under a contract, the method of fuel oil transfer shall be submitted on LMV Form 414R Fuel Oil Transfer, (available upon request). (Refer to 33 CFR 156.)

e. The Contractor shall not commence physical work at the site until the plan has been accepted by the Contracting Officer, or his authorized representative. At the Contracting Officer's discretion, the Contractor may submit his Activity Hazard Analysis only for the first phase of construction provided that it is accompanied by an outline of the remaining phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. Also, refer to Section 1, "Program Management", paragraph 01.B, "Indoctrination and Training" of EM 385-1-1.

1.21 DAILY INSPECTIONS

Refer to Contract Clause INSPECTION OF CONSTRUCTION. The Contractor shall perform daily safety inspections and record them on the forms approved by the Contracting Officer. Reports of daily inspections shall be maintained at the job site. The reports shall be records of the daily inspections and resulting actions. As a minimum each report shall include the following:

a. Phase(s) of construction underway during the inspection

b. Locations or areas inspections were made.

c. Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

1.22 ACCIDENT INVESTIGATIONS AND REPORTING

Refer to EM 385-1-1, Section 1, "Program Management", paragraph 01.D, "Accident Reporting and Recordkeeping". Accidents shall be investigated and reports completed by the immediate supervisor of the employee(s) involved and reported in writing to the Contracting Officer or his representative within one working day after the accident occurs.

1.23 ACCOMMODATIONS FOR GOVERNMENT REPRESENTATIVES

a. Accommodations. The Contractor shall furnish and maintain a temporary building for the exclusive use of the Government Representatives and shall move the building from the vicinity of one part of the work to another as the work progresses. The building shall be of light, but weatherproof construction, approximately 120 square feet in size with not less than 7 feet of headroom. It shall have a substantial workbench along one side and sufficient number of windows to admit ample working light. Windows shall be arranged to open and to be securely fastened from the inside. The door shall be of wood panel or solid core construction and be equipped with a padlock and heavy

duty hasp bolted to the door. Insect screens shall be provided for windows. Glass panels in windows shall be equipped with bars or heavy mesh screens which will prevent easy access to the building through these panels. The Contractor shall heat the building by means of heaters and shall cool the building by means of an air conditioning unit. Electric current shall also be provided for operation of lights, appliances, and electric calculators at 115 volts AC. Electric current may be provided by use of a portable generator. A minimum of two wall outlets and two ceiling drops shall be provided in the building. One office desk and a minimum of two chairs shall be provided in the building. Telephone service with an exclusive line solely for Government use shall be furnished to the Government Representative building. Toilet facilities shall be provided in the building or adjacent thereto. The building shall remain the property of the Contractor and upon completion of all work under the contract shall be removed as provided in the Contract Clause OPERATIONS AND STORAGE AREAS. An office trailer meeting the above requirements will be acceptable.

b. Janitor Services. The Contractor shall furnish daily janitorial services for the above offices and perform any required maintenance of subject facility and adjacent grounds during the entire life of the contract. Toilet facilities shall be clean and sanitary at all times. Services shall be performed at such a time and in such a manner to least interfere with the operations but will be accomplished only when the facility is in daily use. The Contractor shall also provide daily trash collection and cleanup of the building and adjacent outside areas, and shall dispose of all discarded debris in a manner approved.

c. Should the Contractor refuse, neglect, or delay compliance with the above requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amount due or to become due the Contractor.

1.24 MACHINERY AND MECHANIZED EQUIPMENT

Machinery and mechanized equipment used under this contract shall comply with the following:

a. When mechanized equipment is operated on floating plant, the Contractor shall provide positive and acceptable means of preventing this equipment from moving or falling into the water. The type of equipment addressed by this clause includes front-end loaders, bulldozers, trucks (both on- and off-road), backhoes, hydraulic excavators (track hoes), and similar equipment. If the Contractor plans to use such equipment on floating plant, an activity hazard analysis must be developed for this feature of work. The plan must include a detailed explanation of the type or types of physical barriers, curbs, structures, etc., which will be incorporated to protect the operator and prevent the equipment from entering the water. Nonstructural warning devices may be considered for situations where the the use of structural barriers is determined to be impracticable. The activity hazard analysis must thoroughly address the procedure and be submitted to the Corps for review and acceptance prior to start of this feature of work.

b. The stability of crawler, truck, and wheel-mounted cranes shall be assured.

(1) The manufacturer's load-rating chart may be used to determine the maximum allowable working load for each particular crane's boom angle provided a test load, with a boom angle of 20 degrees, confirms the manufacturer's load-rating table.

(2) Stability tests are required if:

(i) there is no manufacturer's load-rating chart securely fixed to the operator's cab;

(ii) there has been a change in boom or other structural member or,

(iii) there has been a change in the counterweight. The test shall consist of lifting a load with the boom in the least stable undercarriage position and at an angle of 20 degrees above the horizontal. The test shall be conducted under close supervision on a firm, level surface. The load that tilts the machine shall be identified as the test load. The test load moment (in ft-lbs) shall then be calculated by multiplying the horizontal distance (in ft) from the center of rotation of the machine to the test load, times the test load (in lbs). Three-fourths of this test-load moment shall then be used to compute the maximum allowable operating loads for the boom at 20, 40 ,60, and 80 degrees above horizontal. From these maximum allowable operating loads, curve shall be plotted and posted in the cab of the machine in sight of the operator. These values shall not be exceeded except in the performance test described below. The test load shall never exceed 100 percent of the manufacturer's maximum rated capacity.

(3) In lieu of the test and computations above, the crane may be load tested for stability at each of the four boom positions listed above.

c. Performance tests shall be performed in accordance with Section 16, "Machinery and Mechanized Equipment" of EM 385-1-1, "Safety and Health Requirements Manual", except as specified below. Performance tests shall be conducted after each stability test, when the crane is placed in service on a project, and at least every 12 months.

(1) When conducting a performance load test which is required of a new crane or a crane in which load sustaining parts have been altered, replaced, or repaired (excluding replacement of the rope), the test load shall be as specified in ASME/ANSI B30 series. That is, for overhead, gantry, portal, pillar, tower, monorail, and underhung cranes, the test load shall not exceed 125 percent of the manufacturer's load rating capacity chart at the configuration of the test; for hammerhead tower, mobile, and floating cranes and boom trucks, the test load shall not exceed 110 percent of the manufacturer's load rating capacity chart at the configuration of the test.

(2) When conducting a performance load test which is required because a crane is reconfigured, or reassembled after disassembly, or because the crane requires an annual load test, the test loads shall not exceed 100 percent of the manufacturer's load rating capacity chart at the configuration of the test.

(3) All load tests are required to be conducted in accordance with the manufacturer's recommendations.

d. Inspections shall be made which will ensure a safe and economical operation of both cranes and draglines with inspection documented. Copies of the inspections and tests shall be available at the job site for review. All stability and performance tests on cranes and all complete dragline inspections shall be witnessed by the Contracting Officer or his authorized representative.

e. A complete dragline inspection shall be made:

(1) at least annually;

(2) prior to the dragline being placed in operation; and

(3) after the dragline has been out of service for more than 6 months.

f. All heavy equipment moved onto the worksite shall be inspected using the appropriate LMV Inspection Forms (attached at the end of this Section). All completed forms, including abatement schedule of any violations, shall be maintained at the job site for continued review and update as needed.

1.25 VEHICLE WEIGHT LIMITATIONS

Vehicle weight limitations for operation on rural roads and bridges may affect the prosecution of work in this contract. The Contractor will be responsible for obtaining all necessary licenses and permits in accordance with the Contract Clause PERMITS AND RESPONSIBILITIES. Current information regarding road and bridge weight limits may be obtained by contacting the Mississippi Department of Transportation and the president of the county Board of Supervisors for the counties through which equipment and materials will be transported as a result of this contract.

1.26 PUBLIC UTILITIES

a. Unless otherwise specified, shown on the drawings, or stated in writing by the Contracting Officer, the Contractor shall not remove or disturb any public utilities. Such removals, alterations, and relocations, where necessary, will be made by others. The locations, if any, shown on the drawings for underground utilities are approximate only. The exact locations of such utilities shall be determined by the Contractor in the field prior to commencing construction operations in their vicinity.

b. The attention of the Contractor is directed to the possibility that he may encounter, within the right-of-way limits, public utilities, some of which may be buried, and the existence of which is presently not known. Should any such utilities be encountered, the Contractor shall immediately notify the Contracting Officer so that he may determine whether they shall be removed, relocated, or altered. After such determination is made, the Contractor shall, if so directed by the Contracting Officer, remove, relocate, or alter them as required, and an equitable adjustment will be made in accordance with the Contract Clause CHANGES. In event the Contracting Officer arranges for such removals, alterations, or relocations to be performed by others, the Contractor shall cooperate with such others during the latter's

removal, alteration, or relocation operations in accordance with the Contract Clause OTHER CONTRACTS.

1.27 DAMAGE TO WORK

a. The responsibility for damage to any part of the permanent work shall be as set forth in the Contract Clause PERMITS AND RESPONSIBILITIES. However, if, in the judgement of the Contracting Officer, any part of the permanent work performed by the Contractor is damaged by flood (see Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph PHYSICAL DATA, subparagraph FLOODS) or earthquake, which damage is not due to the failure of the Contractor to take reasonable precautions or to exercise sound engineering and construction practices in the conduct of the work, the Contractor shall make repairs as ordered by the Contracting Officer and full compensation for such repairs to permanent work will be made at the applicable contract unit or lump sum prices as fixed and established in the contract. If, in the opinion of the Contracting Officer, for any part of such damaged permanent work, there is no applicable contract unit or lump sum price, then an equitable adjustment pursuant to the Contract Clause CHANGES will be made as full compensation for the repairs for that part of the permanent work for which there is no applicable contract unit or lump sum price.

b. Except as herein provided, damage to all work (including temporary construction), utilities, materials, equipment, and plant shall be repaired to the satisfaction of the Contracting Officer, at the Contractor's expense, regardless of the cause of such damage.

1.28 ENERGY CONSERVATION

The Contractor shall ensure that construction operations are conducted efficiently and with the minimum use of energy.

1.29 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with Contract Clause DEFAULT (FIXED PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON FIVE (5) DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
(5)	(5)	(5)	(4)	(5)	(4)	(4)	(3)	(3)	(4)	(4)	(5)

c. Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the contractor's scheduled work day. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b, above, the contracting officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with Contract Clause DEFAULT (FIXED PRICE CONSTRUCTION).

1.30 CONTROL OF ACCESS TO CONSTRUCTION AREAS

a. This paragraph supplements the Contract Clauses PERMITS AND RESPONSIBILITIES and OPERATIONS AND STORAGE AREAS.

b. It shall be the responsibility of the Contractor to prevent possible injury to visitors to the project site. Only personnel engaged in contract work and others authorized by the Contracting Officer shall be permitted to enter into the construction areas. Suitable barriers, warning signs and directives shall be placed by the Contractor to direct persons not engaged in the work away from the areas of danger. The Contractor shall be responsible for effective enforcement of this paragraph during the period of this contract.

1.31 MAINTENANCE OF TRAFFIC

a. The Contractor shall conduct his operations in such manner as to offer the least possible obstruction to the safe and satisfactory movement of traffic over the existing roads during the life of the contract.

b. The Contractor shall be responsible for providing, erecting, maintaining, and removal of all traffic signs, barricades, and other traffic control devices necessary for maintenance of traffic. See also paragraph ACCIDENT PREVENTION PLAN and the Contract Clause entitled ACCIDENT PREVENTION.

c. All barricades, warning signs, lights, temporary signals, other devices, flagmen, and signaling devices shall meet or exceed the minimum requirements of Mississippi Department of Transportation and Development. (See EM 385-1-1, U.S. Army Corps of Engineers Safety and Health Manual, 3 September 1996, Section 21, Paragraph 21.1.09.). The Contractor is responsible for the protection, maintenance, and replacement of all existing signs, route markers, traffic control signals, and other traffic control features during the life of this contract.

d. Prior to the commencement of construction operations the Contractor shall submit for the acceptance of the Contracting Officer, complete details of his proposed plans for the maintenance of traffic and access through the construction area.

e. The requirements of this paragraph shall be met by the Contractor at no additional expense to the Government.

1.32 HARBOR MAINTENANCE FEE

a. Offerors or bidders contemplating use of U.S. ports in the performance of contract are subject to paying a harbor maintenance fee on cargo. Federal law establishes an ad valorem port use fee on commercial cargo imported into or exported from various U.S. ports. The fee is 0.125 percent (0.00125). Cargo to be used in performing work under contracts with the U.S. Government is not exempt from the fee, although certain exemptions do exist. Offerors are responsible for ensuring that the applicable fee and associated costs are taken into consideration in the preparation of their offers. Failure to pay the harbor maintenance fee may result in assessment of penalties by the Customs Service.

b. The statute is at Title 26 U.S. Code section 4461 and 4462. Department of Treasury Customs Service regulations implementing the statute, including a list of ports subject to the fee, are found at 19 CFR 24.24, Harbor Maintenance Fee. Additional information may be obtained from local U.S. Customs Service Offices or by writing to the Director, Budget Division, Office of Finance, Room 6328, U.S. Customs Service, 1301 Constitution Avenue, N.W., Washington, D.C. 20229.

1.33 MEANS OF ESCAPE FOR PERSONNEL QUARTERED OR WORKING ON FLOATING PLANT

Two means of escape shall be provided for assembly, sleeping, and messing areas on floating plants. For areas involving 10 or more persons, both means of egress shall be through standard size doors opening to different exit routes. Where nine or fewer persons are involved, one of the means of escape may be a window (minimum dimensions 24 inches by 36 inches) which leads to a different exit route. Refer to Section 19, "Floating Plant and Marine Activities" of EM 385-1-1, "Safety and Health Requirements Manual".

1.34 EMERGENCY ALARMS AND SIGNALS

a. Alarms. Emergency alarms shall be installed and maintained on all floating plant requiring a crew where it is possible for either a passenger or crewman to be out of sight or hearing from any other person. The alarm system shall be operated from the primary electrical system with standby batteries on trickle charge that will automatically furnish the required energy during an electrical-system failure. A sufficient number of signaling devices shall be placed on each deck so that the sound can be heard distinctly at any point above the usual background noise. All signaling devices shall be so interconnected that actuation can occur from at least one strategic point on each deck.

b. Signals.

(1) Fire Alarm Signals. The general fire alarm signal shall be in accordance with Paragraph 97.13-15b of the "Coast Guard Rules and Regulations for Cargo and Miscellaneous Vessels", Sub-Chapter

1, 1 Sep 77 (CG 257).

(2) Abandon Ship Signals. The signal for abandon ship shall be in accordance with Paragraph 97.13-15c of reference cited in paragraph "b(1)" above.

(3) Man-Overboard Signal. Hail and pass the word to the bridge. All personnel and vessels capable of rendering assistance shall respond.

1.35 SIGNAL LIGHTS (JAN 1965)

The Contractor shall display signal lights and conduct his operations in accordance with the regulations of the Department of the Army and of the Coast Guard covering lights and day signals to be displayed, by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operation; lights to be displayed on dredge pipelines, and day signals to be displayed by vessels of more than 65 feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable waters see for example, 33 CFR 84 through 89. (See also Contract Clause, PERMITS AND RESPONSIBILITIES.)

1.36 INSPECTION

a. The inspectors will direct the maintenance of the gauges, ranges, location marks, and limit marks in proper order and position; but the presence of the inspector will not relieve the Contractor of responsibility for the proper execution of the work in accordance with the specifications. The Contractor will be required:

(1) To furnish, on the request of the Contracting Officer or any inspector, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the plant as may be reasonably necessary in inspecting and supervising the work. However, the Contractor will not be required to furnish such facilities for the surveys prescribed in the paragraph FINAL EXAMINATION AND ACCEPTANCE.

(2) To furnish, on the request of the Contracting Officer or any inspector, suitable transportation, from all points on shore designated by the Contracting Officer, to and from the various pieces of plant.

b. Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amount due or to become due the Contractor.

1.37 CONTINUITY OF WORK

No payment will be made for work done in any area designated by the Contracting Officer until the full depth required under the contract is secured in the whole of such area, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured except by decision of the Contracting Officer. Should any such nonadjacent area be excavated to full depth during the operations carried on under the contract payment for all work therein may be deferred

until the required depth has been made in the area intervening. The Contractor may be required to suspend dredging at any time when for any reasons the gages or baseline cannot be seen or properly followed.

1.38 FINAL EXAMINATION AND ACCEPTANCE (1965 APR OCE)

a. As soon as practicable after the completion of the entire work or any section thereof, as in the opinion of the Contracting Officer will not be subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the Government by sounding or by sweeping, or both, as determined by the Contracting Officer. Should any shoals, or other areas deficient in contract depth be disclosed by this examination, the Contractor shall remove same by dragging the bottom or by dredging at the contract rate for dredging. If the shoal or deficient areas are small, the removal of such shoal or deficient areas may be waived at the discretion of the Contracting Officer. The Contractor or his authorized representative will be notified when soundings or sweepings are to be made, and will be permitted to accompany the survey party. When the area is found to be in satisfactory condition, it will be accepted. Should the Government require more than two (2) soundings or sweeping operations over an area for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operation will be charged against the Contractor at the rate of $2,000 per day for each day in which the Government plant is engaged in sounding or sweeping or is enroute to or from the site or held at or near the said site for such operations.

b. Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereof will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages for the whole or any part of the work.

1.39 SHOALING

If before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished channel, because of the natural lowering of the side slopes, redredging at the applicable contract unit price, within the limit of available funds, may be done if agreeable to both the Contractor and the Contracting Officer.

1.40 ACCEPTANCE OF COMPLETED WORK

For the purpose of acceptance, the work to be done is divided into sections as follows:

a. Disposal Area

The disposal area will be accepted separately. However, all work required the disposal area (including clearing and grubbing, dike construction, effluent return structures, and related work) except turf establishment must be completed before the disposal area is accepted.

b. Dredging

Completed channel and the adjacent bank clearing and top bank collector ditches will be accepted in approximate 2,000 feet reaches. Acceptance

reaches will be continuous.

c. All remaining work.

1.41 BANK STABILIZATION "CONSTRUCTION" DRAWINGS

"Construction" drawings based on detailed survey of conditions existing prior to bank stabilization construction will be issued prior to bank stabilization construction. The "construction" drawings will include the locations, azimuths, lengths, types of construction, and top elevations of the stone dikes, stone paving, excavation, ground profiles, and other pertinent requirements and information. The bank stabilization work shall conform to these and any other drawings as may be issued during construction.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

-- End of Section --

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley	Date of Inspection
Contractor or Unit	Contract No. or Activity
Inspected by (Signature)	Approved by (Signature)

Activity Inspected: NIGHT OPERATIONS **NOTE:** Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.	Yes	No	Not App
1. General: a. On construction contracts, is there a designated Contractor's representative on duty during night operations?* b. Does the contractor have an approved Activity Hazard Analysis for night operations? (01.A.09) c. Has Activity Hazard Analysis been reviewed by all employees prior to start of operation and documented? (01.B.03) d. Is each new employee provided with initial safety orientation? (01.B.01) e. Are emergency phone numbers posted and at least 2 qualified first aid and CPR attendants on duty? (03.A.01, 03.A.02) f. Are weekly safety meetings being held for night shift employees, by field supervisors or foremen? g. Are regularly scheduled safety meetings being held, at least once a month, for night shift supervisors? (03.B.03) h. Are outlines of each safety meeting being maintained at project site? (01.B.03)			
2. Lighting: a. Is there adequate lighting in work areas? (07.A.01, Table 7-1, 16.A.11) b. Is there adequate lighting on decks, walkways and floating plant? (07.A.01, Table 7-1) c. Is there adequate lighting at crew boat loading dock and unloading areas? (07.A.01, Table 7-1) d. Are semi-portable equipment, floodlights, and work lights provided with protective grounding, if not exempted by NEC? (11.C.01)			
3. Transportation to and from floating plant: a. Is boat equipped with sufficient number of life preservers? (05.I.01) b. Is weather deck of boat coated with non-skid material? (19.B.01) c. Do guardrails meet requirements of EM 385-1-1? (19.B.01, 21.B.01, 21.B.07) d. If boat is more than 26 feet in length, does operator hold a current Coast Guard license? (19.A.02) e. If more than 6 passengers are carried, or boat length is greater than 26 feet in length, is vessel Coast Guard certified and operator licensed? (19.A.02) f. Does motor boats and skiffs meet minimum flotation requirements of Coast Guard? (19.C.02) g. Does boat have running lights as required by 33 CFR 81 APPA and 33 CFR 84 ANNEX 1 (regardless of length)? h. Is the capacity of boat and maximum no. of passengers posted in accordance with EM-385-1-1? (19.C.03) j. Is there safe, easy access from boat to landing? (19.B.01, 19.B.02))			
4. Miscellaneous: a. Are haul roads properly marked for night work? b. Are necessary access and haul roads provided to work area? (21.I.01) c. Are all employees dressed suitable for night operations? Minimum shall be short sleeve shirt, long trousers and leather or other protective work shoes. d. Are all vehicles and construction equipment properly lighted for night work? (18.A.04, 16.A.11) e. Does flag or signal person have reflectorized warning garments? (08.B.08) f. Are all spotters or signal personnel adequately trained for operation? (08.B.10)			
5. REMARKS: * (Ref. Contract General Provisions).			

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley	Date of Inspection
Contractor or Unit	Contract Number - Job Description
Type of Equipment & Boom Length	Make, Model No., Identification
Inspected by (Signature)	Approved by (Signature)

CRANES AND DERRICKS **NOTE**: Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.	Yes	No	Not App
1. Is a list of the required clearances from overhead power lines posted? If necessary to work near power lines, boom shall have insulating cage guard and load line shall have insulating link. (11.E.04, 11.E.07)			
2. Are load rating charts with the machine? (16.C.01, 16.C.13)			
3. Is a list of standard hand signals posted in cab? (16.C.10, 08.B.01, 08.B.02)			
4. Are shock absorbing boom stops installed on machine? (16.D.02)			
5. Has the manufacturer certified the boom stops? (16.D.02)			
6. Does the boom angle, levelness, and other indicators operate accurately? (16.D.01)			
7. Does the unit have a suitable fire extinguisher? (16.A.26)			
8. Are moving parts, gears, drums, shafts, belts adequately screened or guarded? (16.B.03)			
9. Is there adequate protection from hot pipes, etc? (16.B.03)			
10. Are steps, ladders, guard rails, provided for safe footing and access? (16.B.03, 21.A.01)			
11. Can lubrication and greasing be done safely? (16.B.13)			
12. Is the cab equipped with unbroken distortion free safety glass? (16.B.10)			
13. Is fuel tank located so that overflow and spills will not run into cab or come in contact with exhaust ? (16.B.04)			
14. Is the unit shut down for fueling, servicing, etc? (16.A.14)			
15. Are slings, fastenings, fittings inspected daily by a qualified person?* Is wire rope inspected by a competent person frequently? (Section 15)			
16. When wedge socket type fasteners are used, has the dead end been made secure against loosening? (15.B.04)			
17. Have the air tanks been tested and certified? (20.A.02)			
18. Are test and inspection records kept available as a part of the official project file? (16.A.01)			
19. Is there evidence of deformed, cracked, or corroded members in the crane structure or boom? * (ANSI)			
20. Do the drums have proper pawls or positive locking devices? (16.B.14)			
21. Is there sufficient cable available so as to allow three full wraps on the drum at all working positions? (16.C.09)			
22. Are daily inspections being made of all control mechanisms to assure that there is no maladjustment interfering with proper operation? *			
23. Are inspections being made, at least monthly, of control mechanisms for excessive wear of components, and contamination by lubricants, or other foreign matter? *			
24. Are frequent (daily to monthly) inspections being made of all safety devices? *			
25. Are daily inspections for deterioration, or leakage in air or hydraulic systems being made? *			
26. Are crane hook inspections being made frequently (daily to monthly) to assure that there are no cracks or that the normal hook throat opening has not increased more than 15% *			
27. Is there evidence of loose bolts or rivets? * (ANSI)			
28. Is there evidence of cracked or worn sheaves or drums? (15.F.04)			
29. Are parts such as pins, bearings, shafts, gears, rollers, and locking devices worn, cracked, or distorted?			

* (**Ref Contract Special Clauses**) (Continued on reverse)

CRANES AND DERRICKS	Yes	No	Not App
30. Is there evidence of excessive wear on brake and clutch system parts? *			
31. Is there evidence of excessively worn or damaged tires? *			
32. Is the power plant in good mechanical condition? *			
33. Are accessible areas within the swing radius of the rear barricaded? (16.C.08)			
34. Has a boom hoist disengaging device been installed on cranes with cable supported booms? (16.D.02)			
35. Is there a current set of operator's manuals available? (16.C.01)			
36. Are cranes and derricks operated by qualified operators? (16.C.04)			
37. Have lattice and Hydraulic cranes been equipped with a device to stop the load hoisting before the load block contacts the boom tip? (16.D.01)			

38. Crane Stability Test:

Amount of counterweight: _____ lb.

Boom Angle	Distance from Center Pin to Load Line R (ft)	Tipping Load I (lb)		Moment R x I		Maximum Allowable Load L=0.75 I	
		With Outriggers	Without Outriggers	With Outriggers	Without Outriggers	With Outriggers	Without Outriggers
20°	_____	_____	_____	_____	_____	_____	_____
40°	_____	_____	_____	_____	_____	_____	_____
60°	_____	_____	_____	_____	_____	_____	_____
80°	_____	_____	_____	_____	_____	_____	_____

39. Performance Test:

a. Complete items 1-32 on this form.

b. Determine performance test load (PTL) from the stability test above with the boom at the 80° position. PTL=(1.25)(L)

c. Position the boom in the 80° position and allow the crane to lift, lower, and hold the performance test load.

40. Remarks

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley	Date of Inspection
Contractor or Unit	Contract Number - Job Description
Type of Equipment	Identification
Inspected by (Signature)	Approved by (Signature)

CRAWLER TRACTORS - DOZERS **NOTE:** Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.	Yes	No	Not App
1. Is protection, (grills, canopies, screens) provided to shield operator from falling or flying objects? (16.B.10, 16.B.11)			
2. Is adequate roll over protection provided? (16.B.12)			
3. Are seat belts provided? (16.B.08, 16.b.12)			
4. Is the operator physically qualified? (01.C.01)			
5. Does the unit have a suitable fire extinguisher? (16.A.26)			
6. Is there an effective, working reverse alarm? (16.B.01)			
7. Are moving parts, shafts, sprockets, belts, etc. guarded? (16.B.03, 16.B.07)			
8. Is protection against contact with hot surfaces, exhaust, etc. provided? (16.B.03)			
9. Are all screens, guards, shields in place and effective? (16.B.03)			
10. Is the unit shut down for fueling, servicing, etc? (16.A.14)			
11. Is the dozer blade lowered when not in use? (16.A.09)			
12. Are sufficient lights provided for night operations? (16.A.11)			
13. Are there initial inspections and scheduled inspections of the equipment at regular intervals? (16.A.01, 16.A.02)			
14. Are fuel tanks located in a manner to prevent spills or overflows from running onto engine, exhaust, or electrical equipment? (16.B.04)			
15. Are exhaust discharges from equipment so directed that they do not endanger persons or obstruct the view of the operator? (16.B.05)			
16. Are inspection records kept available as a part of the official project file? (16.A.01)			
28. REMARKS:			

SAFETY INSPECTION CHECK LIST FOR CONSTRUCTION EQUIPMENT U. S. Army Engineer Division, Mississippi Valley	Date of Inspection
Contractor or Unit	Contract Number - Job Description
Type of Equipment & Boom Length	Make, Model No., Identification
Inspected by (Signature)	Approved by (Signature)

Equipment Inspected: DRAGLINES **NOTE:** Corps of Engineers General Safety Requirements (EM 385-1-1) references are shown in parentheses.	Yes	No	Not App
1. Is a list of the required clearances from overhead power lines posted? If necessary to work near power lines, boom shall have insulating cage guard and load line shall have insulating link. (11.E.04, 11.E.07)			
2. Does the unit have a suitable fire extinguisher? (16.A.26)			
3. Are moving parts, gears, drums, shafts, belts adequately screened or guarded? (16.B.03)			
4. Is there adequate protection from hot pipes, etc? (16.B.03)			
5. Are steps, ladders, guardrails, provided for safe footing and access? (16.B.03)			
6. Can lubrication and greasing be done safely? (16.A.08, 16.B.13)			
7. Is the cab equipped with unbroken safety glass? (16.B.10)(18.A.07)			
8. Is the fuel tank located so that overflow and spills will not run into cab or come in contact with exhaust? (16.B.04)			
9. Is the unit shut down for fueling, servicing, etc? (16.A.14)			
10. Is wire rope being inspected by a competent person frequently? (Daily to Monthly) (15.A.02)			
11. When wedge socket type fasteners are used, has the dead end been made secure against loosening? (15.B.04)			
12. Have the air tanks been tested and certified? (20.A.02,20.A.03)			
13. Are test records kept available as part of the official project file? (16.A.01)			
14. Is there evidence of deformed, cracked, or corroded members in the crane structure or boom?			
15. Do the drums have proper pawls or positive locking devices? (16.B.14)			
16. Is there sufficient cable available so as to allow three full wraps on the drum at all working positions? (16.C.09)			
17. Are daily inspections being made of all control mechanisms to assure that there is no maladjustment interfering with proper operation? (16.A.01,.02,.05)			
18. Are inspections being made, at least monthly, of control mechanisms for excessive wear of components, and contamination by lubricants, or other foreign matter? (16.A.01,.02,.05)			
19. Are frequent (daily to monthly) inspections being made of all safety devices? (16.A.01,.02,.05)			
20. Are daily inspections for deterioration, or leakage in air or hydraulic systems being made? (16.A.01,.02,.05)			
21. Is there evidence of loose bolts or rivets?			
22. Is there evidence of cracked or worn sheaves or drums?			
23. Are parts such as pins, bearings, shafts, gears, rollers, and locking devices worn, cracked, or distorted?			
24. Is there evidence of excessive wear on brake and clutch system parts?			
25. Is there evidence of excessively worn or damaged tires?			
26. Is the power plant in good mechanical condition?			
27. Is there evidence that the operator(s) are physically and emotionally qualified? (01.C.01)			
28. REMARKS:			

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SECTION 01025

MEASUREMENT AND PAYMENT

-- End of Section Table of Contents --

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 LUMP SUM PAYMENT ITEMS

1.1.1 General

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, storm water pollution prevention, environmental protection, meeting safety requirements, tests and reports, providing as-built drawings, and for performing all work required for which separate payment is not otherwise provided.

1.1.2 Lump Sum Items

a. "Mobilization and Demobilization"

(1) Payment will be made for all costs associated with mobilization and demobilization, as defined in Section 00800 Special Contract Requirements, paragraph PAYMENT FOR MOBILIZATION AND DEMOBILIZATION.

(2) Unit of measure: lump sum.

b. "Clearing and Grubbing"

(1) Payment will be made for all costs associated with clearing, grubbing, and vegetation removal for dredged material disposal areas, retaining dikes, ditches, pipe lines, equipment access routes, bank stabilization areas, and all other areas required except as specified below; for removing and disposing of all cleared, grubbed, and vegetation removal materials; and all work incidental thereto. Payment for clearing associated with channel excavation operations will not be included in this lump sum price item, but will be included in the contract unit price per mile for "Clearing For Channel Excavation".

(2) Unit of measure: lump sum.

c. "Erosion Control"

(1) Payment will be made for all costs associated with performing erosion control in accordance with Section 02960 EROSION CONTROL, including dressing, soil preparation, fertilizing, seeding, compacting, mulching, and all work incidental thereto.

(2) Unit of measure: lump sum.

1.2 UNIT PRICE PAYMENT ITEMS

1.2.1 General

Payment items for the work of this contract for which contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, storm water pollution prevention, environmental protection, meeting safety requirements, tests and reports, providing as-built drawings, and for performing all work required for each of the unit price items.

1.2.2 Unit Price Items

a. "Clearing For Channel Excavation"

(1) Payment will be made for all costs associated with clearing for channel excavation, disposal of cleared materials, drift removal and disposal, and all work incidental thereto.

(2) Measurement for clearing will be made by the mile. Measurements will be made along the center of the river from the existing cross section designations shown on the contract drawings. If the Contractor desires actual field surveys for measurement, he shall make such surveys in the presence of the Government inspector at his own expense, and payment will be made on the measured distances along the newly excavated top bank. Measurements will be made to the nearest one-tenth of a mile.

(3) Unit of measure: mile.

b. "Channel Excavation"

(1) Payment will be made at the contract unit price for channel excavation for all costs associated with performing the required channel excavation, including all costs for excavating, hauling, placing and spreading material; and including all costs for hydraulic dredging, pipelines, booster pumps, attendant boats, and appurtenant equipment, designing and constructing disposal area weirs, collection ditches and drainage ditches, effluent return systems, equipment access routes, maintenance of complete disposal facility, disposing of dredged materials into disposal areas, including any costs for uniformly dispersing dredged material, and turbidity sampling and testing; and all work incidental thereto.

(2) Quantities for channel excavation will be determined by the Government. The basis of measurement will be current channel surveys made by the Government immediately before channel excavation is begun, and the bottom and side slope surfaces of the theoretical channel cross sections shown on the contract drawings.

(3) The elevations shown on the drawings are representative of conditions that existed in 1993 and 1994 and do not necessarily represent existing conditions. Current surveys will be made by the Government to layout the required channel excavation and to compute pay quantities.

(4) Unit of measure: cubic yard.

c. "Retaining Dike Embankment"

(1) Payment will be made for all costs associated with constructing the retaining dikes, including foundation preparation, borrow excavation, hauling, placing, compacting, and dressing embankment material, and all work incidental thereto.

(2) Retaining dike embankment will be measured for payment by the cubic yard. Quantities will be determined by the Government. The basis for measurement will be a survey of the areas to be filled taken by the Government prior to clearing and grubbing, and the theoretical gross cross section of the completed embankment constructed within the allowable tolerance. No additional measurement or payment will be made for placing embankment to replace materials removed as a result of clearing and grubbing operations, and all costs therefor shall be included in the contract unit price for "Retaining Dike Embankment".

(3) Unit of measure: cubic yard.

d. "Graded Stone C"

(1) Payment will be made for all costs associated with placement of Graded Stone "C", which price and payment shall constitute full compensation for furnishing all plant, labor, stone, drains and performing all grading, excavation, backfill, dike construction, bank paving, outlet drain construction, and all work incidental thereto.

(2) Graded Stone "C" for stone paving and stone dikes will be measured for payment by the ton (2,000 pounds) as determined by barge displacement, where direct placement is practicable, or by weighing by the truckload on approved scales meeting the requirements of paragraph TRUCKLOAD.

a. Truckload. Each truck load shall be weighed to the nearest 0.1 ton and the final quantity rounded to the nearest whole ton. Stone shall be measured for payment by being weighed by the Contraactor on approved scales before being placed in the work. Scales shall be of sufficient length to permit simultaneous weighing of all axle loads and shall be inspected, tested and sealed as directed by the Contracting Officer to assure an accuracy within 0.5 percent throughout the range of the scales. The scale's accuracy shall be certified as to accuracy by an acceptable scales company representative prior to weighing any stone. The scales shall be located at the site of work. If commercial scales are readily available in close proximity (within 30 miles) of site of work, the Contracting Officer may approve the use of the scales. The Contractor shall furnish the scales and shall weigh the stone in the presence of the Contracting Officer, who will certify to the correctness thereof. The Contracting Officer may elect to accept certified weight certificates furnished by a public weigh master in lieu of scale weights at the jobsite. Quarry weights will not be accepted. Scales shall be checked and certified before hauling stone and rechecked and recertified whenever a variance is suspected, and after each

50,000 tons increment of stone weighed under this contract.

b. Barge Load. If delivered by barge, stone will be measured for payment by the Contracting Officer by weight determined by barge displacement. The Contractor shall furnish the Contracting Officer a barge displacement table not less than 10 work days prior to unloading the stone from any barge for which a displacement table has not been furnished and approved previously. The Contractor shall furnish with the barge displacement tables a drawing or sketch of each barge, dimensioned in sufficient detail to permit checking of the tables. The drawings shall show, as a minimum, the length, width, depth of the barge, and dimensions of the rake or rakes. Each such table shall have its accuracy certified by a person or firm, other than the Contractor, customarily performing this service and who has been approved by the Contracting Officer. Each table submitted shall show the name and/or number of the barge, the barge dimensions, the barge owner, the name of the fabricator, and the certification and date of certification of the person or firm preparing the table. All new or modified barges may be field checked for current dimensions by the Contracting Officer. Each table submitted shall contain, in parallel columns, the freeboard of the barge in feet and tenths from zero to the full depth of the barge, and the corresponding gross displacement to the nearest ton. Each barge shall be suitably marked with two displacement gaging locations along each side of the barge. Each gaging location shall be marked by a line perpendicular to the edge of the barge, four inches wide and one foot long, on both the deck and side of the barge. Barges with rakes shall have the displacement gaging lines placed at each corner of the box section between the rakes. If a barge has a box end or ends, the gaging locations shall be placed approximately four feet from the box end(s). The freeboard will be measured at the four gaging locations and the displacement determined by the use of "STANDARD BARGE TABLES" from the average of these measurements. The displacement will be determined before and after being unloaded and the difference between these values shall be the quantity delivered.

c. No separate measurement or payment will be made for the stockpiling of stone. No separate measurement or payment will be made for excavating and placing streambed sand and/or gravel used for filling holes in the channel bottom or banks. Disposal of materials and clearing and grubbing for placement of Graded Stone "C" shall be included in the contract price for "Clearing and Grubbing".

(3) Unit of measure: ton.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

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SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the sponsoring organization, i.e. ASHRAE 15 (1994) Safety Code for Mechanical Refrigeration. However, when the sponsoring organization has not assigned a number to a document, an identifying number has been assigned for convenience, i.e. ASHRAE's unnumbered 1993 edition of their Handbook, Fundamentals is identified as ASHRAE-03 (1993) Handbook, Fundamentals I-P Edition. The sponsoring organization number (ASHRAE 15) can be distinguished from an assigned identifying number (ASHRAE-03) by the lack of a dash mark (-) in the sponsoring organization assigned number.

1.2 ORDERING INFORMATION

The addresses of the organizations whose publications are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the sponsoring organization should be ordered from the source by title rather than by number.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Ph: 610-832-9500
Fax: 610-832-9555

CODE OF FEDERAL REGULATIONS (CFR)
Order from:
Government Printing Office
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-275-7703
Internet: http://www.pls.com:8001/his/cfr.html

CORPS OF ENGINEERS (COE)
Order from:
U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services Branch, TIC
3909 Halls Ferry Rd.
Vicksburg, MS 39180-6199
Ph: 601-634-2571
Fax: 601-634-2506

ENGINEERING MANUALS (EM)

USACE Publications Depot
Attn: CEIM-SP-D
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081

ENGINEERING REGULATIONS (ER)
USACE Publications Depot
Attn: CEIM-SP-D 2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01130

ENVIRONMENTAL PROTECTION

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SECTION 01130

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of importance to life; or degrade the environment for aesthetic, cultural or historical purposes. Environmental protection is the prevention and/or control of pollution that develops during normal construction practice. The control of environmental pollution and damage requires consideration of air, water, soil, and land resources; and includes management of visual aesthetics; noise; solid, chemical, and liquid waste; radiant energy and radioactive materials; and other pollutants.

1.2 ENVIRONMENTAL PROTECTION REQUIREMENTS

A plan shall be developed to provide for environmental protective measures to prevent and/or control pollution that may develop during construction. The plan shall contain protective measures required to prevent or correct conditions that may develop during the construction. The liability for environmental noncompliance shall be borne by the Contractor.

1.2.1 Environmental Protection Plan

Within 15 days after receipt of Notice of Award of the contract and at least 7 days prior to the Preconstruction Conference, the Contractor shall submit in writing an Environmental Protection Plan. No physical work at the site shall begin until the Contracting Officer has approved the plan and provided specific authorization to start a phase of the work. Preparation and submittal of supplemental plan(s) may be necessary for later phases of work. A copy of the complete Environmental Protection Plan shall be maintained on-site at all times during the life of the contract. The environmental protection plan shall include but not be limited to the following.

1.2.1.1 Protection of Features

In accordance with Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS, the Contractor shall develop methods for the protection of features to be preserved within authorized work areas. The Contracting Officer will prepare a list of resources needing protection and preservation (i.e., trees, shrubs, vines, grasses and ground cover, landscape features, air quality, noise levels, surface and ground water quality, fish and wildlife, soil, historic, archaeological and cultural resources). The Contractor's plan shall identify methods to protect these and other resources present and specify measures to protect the environment should an accident, natural causes of pollution, or failure to follow the environmental protection plan occur during construction. The Contractor's plan shall specify how the quality and protective measures of these resources shall be monitored. Furthermore the Contractor's plan shall specify how and where waste shall be disposed.

1.2.1.2 Procedures

The Contractor shall implement procedures to provide the required environmental protection and to comply with the applicable laws and regulations. The Contractor shall set out the procedures to be followed to correct pollution of the environment due to accident, natural causes or failure to follow the procedures set out in accordance with the environmental protection plan.

1.2.1.3 Permit or License

Notwithstanding the Contract Clause PERMITS AND RESPONSIBILITIES, the Government will obtain a National Pollution Discharge Elimination System (NPDES) Permit for storm water discharges from construction activities. The Contractor shall obtain all other needed permits or licenses. The Contractor shall be responsible for complying with all permits and licenses throughout the duration of this contract.

1.2.1.4 Drawings

The Contractor shall include drawings identifying the areas of limited use or nonuse and show locations of any proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, stockpiles of earth materials, and disposal areas for excess earth material and unsuitable earth materials.

1.2.1.5 Recycling and Waste Prevention Plan

The Contractor shall submit as a part of the Environmental Protection Plan, a Recycling and Waste Prevention Plan.

1.2.1.6 Environmental Monitoring Plans

The Contractor shall include environmental monitoring plans for the job site which incorporate land, water, air and noise monitoring.

1.2.1.7 Traffic Control Plan

The Contractor shall include a traffic control plan for the job site. This plan shall focus on reducing erosion of temporary roadbeds by construction traffic, especially during wet weather, and reducing the amount of mud transported onto paved public roads by motor vehicles or runoff.

1.2.1.8 Surface and Ground Water

The Contractor shall establish methods of protecting surface and ground water during construction activities. These water courses shall be protected from pollutants such as petroleum products, fuels, oils, lubricants, bentonite, bitumens, calcium chloride, acids, waste washings, sewage, chlorinated solutions, herbicides, insecticides, lime, wet concrete, cement, silt, or organic or other deleterious material. Chemical emulsifiers, dispersants, coagulants, or other cleanup compounds shall not be used without prior written approval from the Contracting Officer. Waters used to wash equipment shall be disposed to prevent entry into a waterway until treated to an acceptable quality. Fuels, oils, greases, bitumens, chemicals, and other nonbiodegradable materials shall be contained with total containment systems and removed from the site for disposal in an approved manner.

1.2.1.9 Noise Intrusion

The Contractor shall exercise controls to minimize damage to the environment by noise from construction activities. All Contractor's, subcontractors', and suppliers' equipment used on or in the vicinity of the job site shall be equipped with noise suppression devices. Equipment not so suppressed and properly maintained must be approved for use in writing by the Contracting Officer. Areas that have noise levels greater than 85 dB continuous or 140 dB peak (unweighted) impulse must be designated as noise hazardous areas. These work areas must have caution signs displayed at the perimeter of the noise area indicating the presence of hazardous noise levels and requiring the use of hearing protection devices.

1.2.1.10 Work Area Plan

The Contractor shall include a work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. The plan shall include measures for marking the limits of use areas.

1.2.1.11 Contaminant Prevention Plan

The Contractor shall identify potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water or ground. The Contractor shall detail provisions to be taken regarding the storage and handling of these materials. The plan shall include, but not be limited to, plans for preventing polluted runoff from plants, parked equipment, and maintenance areas from entering local surface and ground water sources.

1.2.1.12 Storm Water Pollution Prevention Plan

As required in Section 01565 STORM WATER POLLUTION PREVENTION PLAN, the Contractor shall address the impact of construction upon erosion of the earth's surface and the introduction of pollutants into water courses. The Storm Water Pollution Prevention Plan shall include the Contractor's plan for controlling pollution, sediment and soil erosion and for disposing of wastes. The plan shall identify all temporary and permanent erosion and sediment control measures adopted such as soil stabilization, seeding, mulching, sprinkling, ditching, diking, draining, and constructing sedimentation basins, silt fences, straw bales and diversion ditches.

1.3 ENVIRONMENTAL LITIGATION

a. If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor, or a Subcontractor at any tier, not required by the terms of the contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor, or a Subcontractor at any tier, other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the SUSPENSION OF WORK clause of this contract. The period of such suspension, delay, or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the

cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

b. The term "Environmental Litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 PROTECTION OF ENVIRONMENTAL RESOURCES

The Contractor shall protect the environmental resources (such as, but not limited to, historic, archaeological and cultural resources; land, water, and air resources; and fish and wildlife resources) within the project boundaries and those affected outside the limits of permanent work under this contract.

3.1.1 Protection of Land Resources

In accordance with Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS, the land resources within the project boundaries and those affected outside the limits of work under this contract shall be preserved in their present condition or be restored to an equivalent condition upon completion of the work. Prior to initiating any construction, the Contractor shall identify all land resources to be preserved within the work area, including those identified by the Contracting Officer. The Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms without permission from the Contracting Officer unless otherwise specified. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. Where such special emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times and shall be responsible for any subsequent damage as defined in the following subparagraphs.

3.1.1.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas within the designated work areas that are not required to accomplish work to be performed under this contract and which are to be protected. Isolated areas within the general work area which are to be saved and protected shall be marked or fenced. Monuments and markers shall be protected during construction. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor shall convey to his personnel the purpose of marking and protecting all necessary objects.

3.1.1.2 Protection of Landscape

Trees, shrubs, vines, grasses, landforms and other landscape features, indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques.

3.1.1.3 USDA Quarantined Considerations

See Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph WORK IN QUARANTINED AREA.

3.1.1.4 Location of Contractor On-Site Facilities

The Contractor's on-site field offices, staging areas, stockpile storage, and temporary buildings shall be placed in approved areas. Temporary movement or relocation of Contractor on-site facilities shall be only on approval by the Contracting Officer.

3.1.1.5 Disposal Areas on Government Property

Material disposal on government property shall be limited to those areas designated on the contract drawings. The designated disposal areas shall be managed and controlled to prevent erosion of soil or sediment from entering nearby water courses or lakes. Special emphasis is placed on avoiding impacts to wetlands. Disposal areas shall be developed and managed in accordance with the grading plan indicated on the contract drawings or as approved.

3.1.1.6 Disposal of Solid Wastes

Solid wastes (not including clearing debris) shall be any waste excavated or generated by the Contractor. Solid waste shall be placed in containers and disposed on a regular schedule. All handling and disposal shall be conducted to prevent spillage and contamination. The Contractor shall transport all solid waste off government property and dispose properly. The Contractor shall participate in any State or local recycling programs to reduce the volume of solid waste materials at the source whenever practical.

3.1.1.7 Disposal of Hazardous Wastes

Hazardous waste shall be stored, removed from the work area, and disposed of in accordance with all applicable Federal, State, and local laws and regulations. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system. Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation.

3.1.1.8 Disposal of Discarded Materials

Discarded materials that cannot be included in the solid waste category shall be handled as approved.

3.1.1.9 Disposal of Waste Oils

Waste oils and/or lubricants shall be disposed of in accordance with all Federal, State, and local laws and regulations. The Contractor shall collect waste oil and/or lubricants in leak-tight containers, ensure that all openings on the containers are tightly sealed (including the drum ring and bung closures), and label the containers to clearly indicate contents. Disposal through a waste oil recycler is required. The Contractor shall ensure that the recycler has all appropriate State and Federal permits.

3.1.2 Historical, Archaeological and Cultural Resources

The Contractor shall take precautions to preserve existing historical, archaeological and cultural resources. The Contractor shall install protection for these resources and shall be responsible for their preservation during this contract. If during construction activities the Contractor observes items that may have archaeological or historic value (e.g., when Native American human remains and associated objects are discovered), the Contractor shall stop work in the area, leave the items undisturbed, and immediately report the find to the Contracting Officer. Such items may include historic artifacts of glass, metal and ceramics, or prehistoric artifacts such as stone tools, ceramics, bone, and shell. The Contractor shall not judge the potential significance of any suspected cultural material, but shall report all findings to the Contracting Officer.

3.1.3 Protection of Water Resources

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. All construction activities shall meet the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permits for Storm Water Discharges from Construction Sites. Discharges of any pollutant into the water courses is strictly prohibited, unless excepted by the Contracting Officer.

3.1.3.1 Waste Water

Waste water directly derived from washing equipment or any other construction activities shall not be discharged into natural water areas.

3.1.3.2 Monitoring of Water Areas Affected by Construction Activities

The Contractor shall be responsible for monitoring all water areas affected by construction activities. In the event that water quality violations result from the Contractor's operation, the Contractor shall suspend the operation or operations causing the pollution, and such suspension shall not form the basis for a claim against the Federal government.

3.1.4 Protection of Aquatic and Wildlife Resources

The Contractor shall keep construction activities under surveillance, management, and control to prevent interference with, disturbance to, and damage to aquatic resources and/or wildlife. Species that require specific attention as defined by law or specified by the Contracting Officer, along with measures for their protection, shall be listed by the Contractor prior to beginning of construction operations.

3.1.5 Protection of Air Resources

The Contractor shall keep construction activities under surveillance, management and control to minimize pollution of air resources. Special management techniques as set out below shall be implemented to control air pollution by the construction activities.

3.1.5.1 Particulates

Dust particles, aerosols, and gaseous by-products from all construction activities, disturbed areas, and/or processing and preparation of materials, such as from asphaltic batch plants, shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul

roads, permanent and temporary access roads, plant sites, disposal sites, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause air pollution standards specified in paragraph PROTECTION OF AIR RESOURCES to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods will be permitted to control particulates in the work area. Sprinkling shall be repeated at such intervals as to keep the disturbed area damp at all times.

3.1.5.2 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal, State, and local allowable limits at all times.

3.1.5.3 Volatile Organic Compound (VOC)

The Contractor shall comply with Federal, State, and local laws and regulations pertaining to emission of VOC vapors at all times.

3.1.5.4 Odors

Odors shall be controlled at all times for all construction activities, including processing and preparation of materials.

3.1.5.5 Monitoring Air Quality

Monitoring of air quality at the construction site(s) shall be the responsibility of the Contractor.

3.2 NONCOMPLIANCE

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall take all necessary action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damage allowed to the Contractor for any such suspension. (See also the Contract Clause PERMITS AND RESPONSIBILITIES.)

3.3 CONTAINMENT AND CLEANUP OF CONTAMINANT RELEASES

The Contractor shall provide the Contracting Officer for approval, a contaminant containment and cleanup plan including the procedures, instructions, and reports to be used in the event of an unforeseen substance release. This plan shall include as a minimum:

a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.

b. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

c. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material placement equipment available in case of an unforeseen spill

emergency.

d. The methods and procedures to be used for expeditious contaminant cleanup.

e. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required reporting channels when a reportable quantity spill of oil or hazardous substance occurs.

3.4 POST CONSTRUCTION CLEANUP

The Contractor shall clean up areas used for construction and remove all signs of temporary construction facilities; Contractor office, storage and staging areas; quarry and borrow areas, and all other areas used by the Contractor during construction. Furthermore, the disturbed areas shall be graded and filled as approved by Contracting Officer. Restoration of original contours is not required unless specified in another section. (See also the Contract Clause CLEANING UP.)

3.5 RESTORATION OF LANDSCAPE DAMAGE

All landscape features damaged or destroyed during construction operations that were not identified for removal shall be restored. Any vegetation or landscape feature damaged shall be restored as nearly as possible to its original condition. (See also the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.)

3.6 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain all constructed facilities and portable pollution control devices for the duration of the contract or for the length of time construction activities create the particular pollutant.

3.7 TRAINING OF CONTRACTOR PERSONNEL IN POLLUTION CONTROL

Contractor personnel shall be trained in environmental protection and conduct environmental protection meetings monthly. The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, and installation and care of facilities (vegetative covers, and instruments required for monitoring purposes) to insure adequate and continuous environmental pollution control. Personnel are to be informed of provisions for hazardous and toxic materials container labeling and for managing Material Safety Data Sheets (MSDS). Anticipated hazardous or toxic chemicals shall also be reviewed. Other items to be discussed shall include recognition and protection of archaeological sites and artifacts. The Contractor shall include training topics discussed and attendance as a part of his daily CQC Report.

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01330

SUBMITTAL PROCEDURES

-- End of Section Table of Contents --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL DESCRIPTIONS

The submittals described below are those required and further described in other sections of the specifications. Submittals required by the CONTRACT CLAUSES and other non-technical parts of the contract are not included in this section.

SD-01 Data

Submittals which provide calculations, descriptions, or other documentation regarding the work.

SD-09 Reports

Reports of inspection and laboratory test, including analysis and interpretation of test results. Test methods used and compliance with recognized test standards shall be described.

SD-13 Certificates

Statement signed by responsible official of a manufacturer of a product, system or material, attesting that the product, system or material meets specified requirements. The statement must be dated after the award of this contract, name the project, and list the specific requirements which it is intended to address.

1.2 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.2.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, they are considered to be "shop drawings."

1.2.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.3 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any

error which may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause CHANGES shall be given promptly to the Contracting Officer.

1.5 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each item shall be stamped, signed, and dated by the CQC representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288)

At the end of this section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. Columns "d" through "q" have been completed by the Government; the Contractor shall complete columns "a" and "s" through "u" and submit the forms to the Contracting Officer for approval within 10 calendar days after Notice to Proceed. The approved submittal register will become the scheduling document and will be used to control submittals

throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

3.4 TRANSMITTAL FORM (ENG FORM 4025-R)

The sample transmittal form (ENG Form 4025-R) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

Submittals shall be prepared, as specified, with four (4) copies and the original delivered to the Contracting Officer.

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025-R shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Three (3) copies of the submittal will be retained by the Contracting Officer and one (1) copy of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of

the Contracting Officer is not required on information only submittals. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR

(Firm Name)

_____ Approved

_____ Approved with corrections as noted on submittal data and/or attached sheets(s).

SIGNATURE: _____

TITLE: _____

DATE: _____

-- End of Section --

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR ☐ FIO ☐ GOV'T. APPROVAL

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)* *b.*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See instruction no. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT SPEC. PARA. NO. *e.*	CONTRACT REFERENCE DOCUMENT DRAWING SHEET NO. *f.*	FOR CONTRACTOR USE CODE *g.*	VARIATION *(See instruction No. 6)* *h.*	FOR CE USE CODE *i.*

REMARKS	I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated. _____ NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A	--	Approved as submitted.	E	--	Disapproved (See attached).
B	--	Approved, except as noted on drawings.	F	--	Receipt acknowledged.
C	--	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX	--	Receipt acknowledged, does not comply as noted with contract requirements.
D	--	Will be returned by separate correspondence.	G	--	Other (*Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contact plans and specifications.

(Reverse of ENG Form 4025-R)

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
UYP, ITEM 4A

CONTRACTOR

SPECIFICATION SECTION
01565

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			2.2.2	Silt Screen Fabric							X				X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
UYP, ITEM 4A

CONTRACTOR

SPECIFICATION SECTION
02225

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			3.4	Testing						X					X											

ENG FORM 4288, Jul 96

SPECSINTACT

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
UYP, ITEM 4A

CONTRACTOR

SPECIFICATION SECTION
02543

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			2.1.3	Gradation Test						X					X											
			2.1.3	Evaluation Tests						X					X											
			1.3	Riprap							X				X											
			2.1.3	Laboratory							X				X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
UYP, ITEM 4A

CONTRACTOR

SPECIFICATION SECTION
02960

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			2.1	Fertilizer	X										X											

ENG FORM 4288, Jul 96

SPECSINTACT

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01451

CONTRACTOR QUALITY CONTROL

-- End of Section Table of Contents --

SECTION 01451

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1996) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(1998) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause INSPECTION OF CONSTRUCTION. The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both on-site and off-site, and shall be keyed to the proposed construction sequence.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 15 days after receipt of Notice of Award of the contract and at least 7 days prior to the Preconstruction Conference, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause INSPECTION OF CONSTRUCTION. The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both on-site and off-site, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC system manager who shall report to the project manager or someone higher in the Contractor's organization. Project manager in this context shall mean the individual with responsibility for the overall management of the project including quality and production.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters will also be furnished to the Government.

d. Procedures for laying out the work, verifying that the work has been constructed as required, and documenting the results of these quality control activities.

e. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

f. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved.)

g. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

h. Procedures for tracking construction deficiencies from identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.

i. Reporting procedures, including proposed reporting formats.

j. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section.

This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing a minimum of seven calendar days prior to any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the Contractor's Quality Control Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The Contractor shall contact the Government to mutually schedule the Coordination Meeting at least 48 hours in advance of conducting the meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both on-site and off-site work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

The Contractor shall identify an individual within his organization at the worksite who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. This CQC System Manager shall be on the site at all times during construction and will be employed by the Contractor, except as noted in the following. An alternate for the CQC System Manager will be identified in the plan to serve in the event of the System Manager's absence. Period of absence may not exceed 2 weeks at any one time, and not more than 30 workdays during a calendar year. The requirements for the alternate will be the same as for the designated CQC Manager.

3.4.1 CQC Organizational Staffing

The Contractor shall provide a CQC staff which shall be at the worksite at all times during progress, with complete authority to take any action necessary to ensure compliance with the contract.

3.4.1.1 CQC Staff

Following are the minimum requirements for the CQC staff. These minimum requirements will not necessarily assure an adequate staff to meet the CQC requirements at all times during construction. The actual strength of the CQC staff may vary during any specific work period to cover the needs of the work period. When necessary for a proper CQC organization, the Contractor will add additional staff at no cost to the Government. This listing of minimum staff in no way relieves the Contractor of meeting the basic requirements of quality construction in accordance with contract requirements. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.1.2 CQC System Manager

The CQC System Manager shall be an experienced construction person with a minimum of 5 years experience in related work. The CQC System Manager, and alternate when serving as System Manager, shall perform no other duties in addition to quality control, except that he may also be project superintendent. The CQC System Manager and alternate shall have successfully completed the course, "Construction Quality Management for Contractors". This course is periodically offered at Vicksburg, MS. (The POC for this course is Mr. James Waddle, CEMVK-CD-MQ, at (601) 631-5501.)

3.4.1.3 Supplemental Personnel

A staff shall be maintained under the direction of the CQC System Manager to perform all CQC activities. The staff must be of sufficient size to ensure adequate CQC coverage of all work phases, work shifts, and work crews involved in the construction. These personnel may perform other duties, but must be fully qualified by experience and technical training to perform their assigned CQC responsibilities and must be allowed sufficient time to carry out these responsibilities. The CQC Plan will clearly state the duties and responsibilities of each staff member.

3.4.2 Organizational Changes

The Contractor shall obtain Contracting Officer's acceptance before replacing any member of the CQC staff. Requests shall include the names, qualifications, duties, and responsibilities of each proposed replacement.

3.5 SUBMITTALS

Submittals shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The Contractor shall be responsible for certifying that all submittals are in compliance with the contract requirements.

3.6 CONTROL

The controls shall include at least three phases of control to be conducted by the CQC System Manager for all definable features of work, as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning each definable feature of work, after all required plans/documents are approved/accepted, and after all copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications.

b. A review of the contract drawings.

c. A check to assure that all materials and equipment have been tested, submitted, and approved.

d. A check to assure that provisions have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for constructing the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that phase of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. The Government shall be notified at least 48 hours in advance of beginning any of the required action of the preparatory phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of preliminary work to ensure that it is in compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verification of full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 48 hours in advance of beginning the initial phase. Separate minutes of this phase shall be

prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work on-site, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure continuing compliance with contract requirements, including control testing, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

As determined by the Government, additional preparatory and initial phases may be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, on-site production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Testing includes operation and acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, will be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test will be given. If approved, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an off-site or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test

facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of $2,000 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 On-Site Laboratory

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Samples of materials for test verification and acceptance testing by the Government shall be delivered to the Corps of Engineers Division Laboratory, f.o.b., at the following address:

Waterways Experiment Station
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch List Inspection

Near the completion of all work or any increment thereof established by a completion time stated in Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of deficiencies/uncompleted work shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies/uncompleted work shall be corrected/completed. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies/uncompleted work have been corrected/completed. Once this is accomplished the Contractor shall notify the Government that the facility is ready for the Government "Pre-Final"

inspection.

3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied or put in use. A Government "Pre-Final Punch List" may be developed as a result of this inspection. Any items noted on the "Pre-Final" inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph will be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control System Manager, his Superintendent or other primary personnel, and the Contracting Officer's Representative shall be in attendance at this inspection. The customer and other Government personnel may also be in attendance. In the event of unavailability of the Contractor's representative, the Contracting Officer may elect to conduct the final acceptance inspection as scheduled. The Contracting Officer will formally schedule the final acceptance inspection based upon the results of the pre-final inspection. At least 14 days prior to the scheduled final acceptance inspection, the Contractor shall give the Contracting Officer a written notice of completion. The notice shall include the Contractor's assurance that all items previously identified to the Contractor as being unacceptable and all remaining work under the contract will be completed and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the Contract Clause INSPECTION OF CONSTRUCTION.

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals reviewed, with contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 24 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 SAMPLE FORMS

Sample forms enclosed at the end of this section are:

a. CONSTRUCTION QUALITY MANAGEMENT REPORT

b. PREPARATORY PHASE CHECKLIST FORM

c. INITIAL PHASE CHECKLIST FORM

3.11 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for additional costs or damages by the Contractor.

-- End of Section --

CONSTRUCTION QUALITY MANAGEMENT REPORT

Contractor:_____Date:_____

Contract No. DACW38-_____Daily Report No._____

Project Title & Location:_____

Weather:_____Precipitation:_____in. emp.:_____Min_____Max

Work Control Feature:_____Portion of Day Suitable for Work:____%

1. Contractor/Subcontractors and Area of Responsibility:

NUMBER:	TRADE	HOURS	EMPLOYER	LOCATION/DESCRIPTION WORK

2. Operating Plant or Equipment. (Not hand tools)

PLANT/EQUIPMENT	DATE OF ARRIVAL/DEPART	DATE OF SAFETY CHECK	HOURS USED	HOURS IDLE	HOURS REPAIR

3. Work performed today: (Indicate location and description of work performed by prime and/or subcontractors by number in table (1) above.)

CQM REPORT FORM (Cont'd)

4. Results of control activities: (Indicate whether P - Preparatory, I - Initial, or F - Follow-up Phase. When a P or I meeting is conducted, complete attachment I-A or I-B, respectively. When network analysis system is used, identify work by use of I-J

5. Tests performed as required by plans and/or specifications:

6. Materials received:

7. Submittals Reviewed:

(a) Submittal No.	(b) Spec/Plan Reference	(c) By Whom	(d) Action

8. Offsite surveillance activities, including action taken:

9. Job safety: (Report violations; Corrective instructions given; Corrective actions taken.)

CQM REPORT FORM (Con't)

10. Remarks: (Instructions received or given. Conflict(s) in Plans and/or specifications.)

_____
_____
_____
_____
_____
_____
_____
_____

Contractor's Verification: On behalf of the Contractor, I certify this portion of the report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the plans and specifications, to the best of my knowledge, except as noted above.

_____
Authorized CQM System Manager Date

GOVERNMENT QUALITY ASSURANCE REPORT

1. Do you concur with the Contractor's Report for this period?	___Yes___*No
2. Did you observe any QC testing/inspections or perfor any QA evaluations or verification od materials?	___*Yes___No
3. Were any instructions given to or information received from the Contractor?	___*Yes___No
4. Has anything developed on the work which, in your opinion, might lead to a change order or contract claim?	___*Yes___No

5. Safety Observations and General Comments/Remarks. (Use back of this form if more space is needed.) Answers to 1-4 above with an asterisk (*) are to be explained below.

I certify that this report is complete and accurate to the best of my knowledge.

_____ _____
Government Quality Assurance Representative Date

CELMK Form 2335 (Oct 93) (Proponent CELMK-CD-MQ)
Page 3 of 3

PREPARATORY PHASE CHECKLIST FORM

Contract No.: _____ Date: _____

Definable Feature: _____ Spec Section: _____

Government Rep Notified _____ Hours in Advance Yes ____ No _____

I. Personnel Present:

	NAME	POSITION	COMPANY/GOVERNMENT
1.			
2.			
3.			
4.			
5.			
6.			
7.			

(List additional personnel on reverse side)

II. Submittals

1. Review submittals and submittal log 4288. Have all submittals been approved? Yes _____ No _____

If No, what items have not been submitted?

a. _____
b. _____
c. _____

2. Are all materials on hand? Yes _____ No _____

If No, what items are missing?

a. _____
b. _____
c. _____

3. Check approved submittals against delivered material. (This should be done as material arrives.)

Comments _____
_____

III. Material storage

Are materials stored properly? Yes _____ No _____

If No, what action is taken? _____
_____

PREPARATORY PHASE CHECKLIST FORM (Cont'd)

IV. Specifications

1. Review each paragraph of specifications.

2. Discuss procedure for accomplishing the work.

3. Clarify any differences.

V. Preliminary Work

Ensure preliminary work is correct.

If not, what action is taken? _____

VI. Testing

1. Identify test to be performed, frequency, and by whom. _____
2. When required? _____
3. Where required? _____
4. Review Testing Plan. _____
5. Has test facilities been approved? _____

VII. Safety

1. Review applicable portion of EM 385-1-1. _____
2. Activity Hazard Analysis approved? Yes _____ No _____

VIII. Corps of Engineers comments during meeting.

_____
CQC Representative

INITIAL PHASE CHECKLIST FORM

Contract No.:_____ Date:_____

Definable Feature:_____

Government Rep Notified:_____ Hours in Advance Yes _____ No _____

I. Personnel Present:

	NAME	POSITION	COMPANY/GOVERNMENT
1.			
2.			
3.			
4.			
5.			
6.			

(List additional personnel on reverse side)

II. Identify full compliance with procedures identified at preparatory phase. Coordinate plans, specifications, and submittals.

Comments:_____

III. Preliminary work. Ensure preliminary work is complete and correct. If not, what action is taken?_____

IV. Establish Level of Workmanship.

1. Where is work located?_____

2. Is a sample panel required? Yes ____ No ____

3. Will the initial work be considered as a sample? Yes ____ No ____
(If yes, maintain in present condition as long as possible.)

V. Resolve any Differences.

Comments:_____

INITIAL PHASE CHECKLIST FORM (Cont'd)

VI. Check Safety.

Review job condition using EM 385-1-1 and job hazard analysis.

Comments:_____
_____
_____

_____
CQC Representative

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01565

STORM WATER POLLUTION PREVENTION PLAN

-- End of Section Table of Contents --

SECTION 01565

STORM WATER POLLUTION PREVENTION PLAN

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3786	(1987) Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics - Diaphragm Bursting Strength Tester Method
ASTM D 4354	(1996) Sampling of Geosynthetics for Testing
ASTM D 4439	(1995) Terminology for Geosynthetics
ASTM D 4491	(1992) Water Permeability of Geotextiles by Permittivity
ASTM D 4533	(1991) Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	(1991) Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	(1993) Determining Apparent Opening Size of a Geotextile
ASTM D 4759	(1988; R 1992) Determining the Specification Conformance of Geosynthetics
ASTM D 4873	(1997) Identification, Storage, and Handling of Geotextiles

1.2 SYSTEM DESCRIPTION

Pursuant to the State of Mississippi General Permit for storm water discharges from construction activities, the requirements contained herein shall constitute the Storm Water Pollution Prevention Plan, hereafter called the SWPP Plan for this contract. A copy of the State of Mississippi Water Pollution Control Storm Water Construction General Permit is attached at the end of this section. The Contractor shall implement and diligently pursue all measures required herein. The purpose of the SWPP Plan is to control soil erosion and resulting sediment to the extent necessary to prevent pollution of any water body caused by the runoff from the areas of construction activities under this contract. Requirements under this section of the specifications are supplemental to and shall become part of the overall Environmental Protection Plan required by Section 01130 ENVIRONMENTAL PROTECTION.

1.2.1 Permit Notifications

The Contractor shall notify the permitting agency by submitting a revised Construction Notice of Intent and Construction Notice of Termination as required by the General Permit for storm water discharges for this project as stated below. The Contractor shall maintain copies of all correspondence with the permitting agency with the SWPP Plan for the duration of this contract.

1.2.2 Construction Notice of Intent

A Construction Notice of Intent (CNOI) has been filed with the permitting agency prior to the award of this contract. The Contractor shall revise the original CNOI by identifying the Contractor's name, address, and the individual having the day to day control over the project. The Contractor shall certify and submit the CNOI to the permitting agency at least 48 hours prior to beginning work. A CNOI form is attached at the end of this section. A copy of the original CNOI will be provided to the Contractor during the Prework Conference.

1.2.3 Termination of Reporting and Permit Coverage

Upon successful completion of all permanent erosion and sediment controls for this project, and at the direction of the Contracting Officer, the Contractor shall notify the Mississippi Office of Pollution Control, on the Monthly Inspection form, of the date all permanent erosion and sediment controls have been completed. Inspections shall continue for at least eight weeks beyond this date unless otherwise notified by the Office of Pollution Control.

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-13 Certificates

Silt Screen Fabric; FIO.

The Contractor shall submit in triplicate, a mill certificate or affidavit signed by a legally authorized official from the company manufacturing the filter fabric. Certificates shall be submitted in accordance with Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph CERTIFICATES OF COMPLIANCE.

1.4 SITE DESCRIPTION

1.4.1 Nature of Construction Activity

The work consists of furnishing all plant, labor, materials and equipment, and constructing the Upper Yazoo Projects, Item 4A Channel Improvement. Principal features of the work include mobilization and demobilization, clearing for channel excavation, clearing and grubbing, retaining dike embankment, channel excavation, erosion control, stone dikes, stone paving, drains, providing as-built drawings, storm water pollution prevention and environmental protection.

1.4.2 Major Activities Which Disturb Soils

The major activities which will disturb the soil at the site include clearing and grubbing, excavation, dikes and grading.

1.4.3 Estimated Areas Affected

The total area of the construction site is approximately 670 acres. The area of soil that will be disturbed by clearing and grubbing, excavation, dikes, and grading is approximately 160 acres.

1.4.4 Runoff Coefficient

The estimated runoff coefficient at the site will be 0.30 after construction activities are completed.

1.4.5 Contract Drawings and Specifications

The following features are shown on or can be determined from the contract drawings and specifications:

a. The approximate slopes after the major construction activities.

b. Areas of soil disturbance.

c. The location where stabilization practices are required.

d. The location of required structural controls.

e. Surface waters.

f. Typical best management practices which are anticipated to be used in the control of sediment and erosion control.

1.4.6 Waters Affected

The name of the receiving water is the Yazoo River.

1.5 CONTROLS

The controls and measures required by the Contractor are described below.

1.5.1 Erosion and Sediment Controls

1.5.1.1 Stabilization Practices

a. General - The stabilization practices to be implemented shall include permanent seeding (erosion control), mulching, vegetative buffer strips, protection of trees, preservation of mature vegetation, etc. The Contractor shall maintain a log of the dates when the major grading activities occur, (e.g. clearing and grubbing, excavation, dikes, and grading); when construction activities permanently cease on a portion of the site; and when stabilization practices are initiated, and shall attach this log to the SWPP Plan. Except as provided in paragraphs UNSUITABLE CONDITIONS, stabilization practices shall be initiated as soon as practicable in any portion of the site where construction activities have permanently ceased.

(1) Unsuitable Conditions - Where the initiation of stabilization

measures after construction activity permanently ceases is precluded by unsuitable conditions caused by the weather, stabilization practices shall be initiated as soon as practicable after conditions become suitable.

(2) Not Used

b. Interim Stabilization Practices - The interim stabilization practices required are described below.

(1) Only trees that are within the indicated limits to construct the permanent work will be removed.

(2) Existing vegetative cover shall be preserved to the extent possible to reduce erosion.

c. Permanent Stabilization Practices - The permanent stabilization practices to be implemented are described below.

(1) Erosion control shall be performed as soon as practicable after the final grading is completed.

1.5.1.2 Structural Practices

a. General

Structural practices shall be implemented to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. The Contractor shall implement the necessary structural practices as may be required to control runoff for his construction methods and procedures. Structural practices shall be implemented in a timely manner during the construction process to minimize erosion and sediment runoff. Structural practices shall be removed after they have served their intended purpose and after their removal has been approved by the Contracting Officer.

b. Devices

Structural practices may include but shall not be limited to the following devices (typical details are shown on the drawings):

(1) Silt fences

(i) General

Filter fabric shall meet the requirements of PART 2 PRODUCTS, paragraph FILTER FABRIC.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range or 0 degrees F to 120 degrees F.

If wooden stakes are utilized for silt fence construction, they shall have a minimum diameter of 2 inches when oak is used and 4 inches when pine is used. Wooden stakes shall have a minimum length of 5 feet.

If steel posts (standard "U" or "T" section) are utilized for silt fence construction, they shall have a minimum weight of 1.33 pounds per linear foot and a minimum length of 5 feet.

Wire fence reinforcement for silt fences using standard strength filter fabric shall be a minimum of 14 gauge and shall have a maximum mesh spacing of 6 inches.

(ii) Installation

The height of a silt fence shall be a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface.

The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together only at a support post, with a minimum 6 inch, lap and securely sealed.

A trench shall be excavated approximately 4 inches wide and 4 inches deep on the up slope side of the proposed location of the measure.

When wire support is used, standard-strength filter fabric may be used. Posts for this type of installation shall be placed a maximum of 10 feet apart. The wire mesh fence shall be fastened securely to the up slope side of the posts using heavy duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 34 inches above the ground surface. The standard strength fabric shall be stapled or wired to the wire fence, and 8 inches of the fabric shall be extended into the trench. The fabric shall not be stapled to existing trees.

When wire support is not used, extra-strength filter fabric shall be used. Posts for this type of fabric shall be placed a maximum of 6 feet apart. The filter fabric shall be fastened securely to the up slope side of the posts using one inch long (minimum) heavy-duty wire staples or tie wires and 8 inches of the fabric shall be extended into the trench. The fabric shall not be stapled to existing trees.

The 4 inch by 4 inch trench shall be backfilled and the soil compacted over the filter fabric.

Silt fences shall be removed upon approval by the Contracting Officer.

(2) Straw Bales.

(i) Installation

Bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another.

All bales shall be either wire-bound or string-tied. Straw bales shall be installed so that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings.

The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier.

Each bale shall be securely anchored by at least two stakes (minimum dimensions 2 inches x 2 inches x 36 inches) or standard "T" or "U" steel posts (minimum weight of 1.33 pounds per linear foot) driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

The gaps between bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales. Loose straw may be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency.

Straw bale barriers shall be removed upon approval by the Contracting Officer.

(3) Diversion Dikes

(i) Installation

Diversion dikes shall have a maximum channel slope of 2 percent and shall be adequately compacted to prevent failure. The minimum height measured from the top of the dike to the bottom of the channel shall be 18 inches. The minimum base width shall be 6 feet and the minimum top width shall be 2 feet. Diversion dikes shall be located to minimize damages caused by construction operations and traffic.

(4) Dredge Effluent Return Devices

Dredge effluent shall be returned to the river by piping the effluent over the river bank to a submerged outlet or by directing the effluent flow to existing permanent flood protection structures with protected outflow channels.

c. Device Applicability

(1) Straw bales, earth dikes, and drainage swales for diversion of runoff upstream from work areas.

(2) Straw bales and earth dikes for retention of flow in drains.

(3) Stone outlet protection.

(4) Sediment containment by providing straw bales along the toe of fill and cut slopes.

(5) Earth dikes for dredge containment areas.

As a minimum, the Contractor shall provide straw bales as a temporary structural practice to minimize erosion and sediment runoff. Bales shall be properly placed to effectively retain sediment immediately after completing each phase of work (e.g. clearing and grubbing, excavation, embankment, and grading) in each independent runoff area (e.g. after clearing and grubbing in an area between a ridge and drain, bales shall be placed, then, as work progresses, bales shall be removed/replaced/relocated as needed for work to progress in the drainage area). Bale rows used to retain sediment shall be turned uphill at each end of each row.

Rows of straw bales shall be provided as follows:

(1) Along the downhill perimeter edge of all areas disturbed.

(2) Along the top of the slope or top bank of drainage ditches, channels, swales, etc. that traverse disturbed areas.

(3) Along the toe of all cut slopes and fill slopes of the construction areas.

(4) Perpendicular to the flow in the bottom of existing drainage ditches, channels, swales, etc. that traverse disturbed areas or carry runoff from disturbed areas. Rows shall be spaced a maximum of 100 feet apart in such existing drains that are within the limits of the work.

(5) Perpendicular to the flow in the bottom of new drainage ditches, channels, and swales. Rows shall be spaced a maximum of 200 feet apart in drains with slopes equal to or less than 5 percent and 100 feet apart in drains with slopes steeper than 5 percent.

(6) At the entrance to culverts that receive runoff from disturbed areas.

1.5.2 Storm Water Management

1.5.2.1 Management Practices

The storm water management practices that will be permanently installed under this contract are as follows:

a. Erosion control.
b. Stone protection.
c. Energy dissipators at discharge locations.

1.5.2.2 Methods

a. Erosion control in accordance with Section 02960 EROSION CONTORL.

b. Stone protection in accordance with dissipators at discharge locations where velocities are high.

1.5.3 Other Controls

1.5.3.1 Waste Disposal

No solid materials, including building materials, shall be discharged to waters of the United States, except as authorized by a Section 404 permit.

Other requirements are included in Section 01130 ENVIRONMENTAL PROTECTION.

1.5.3.2 Off-site Vehicle Tracking

Off-site vehicle tracking of sediments shall be minimized.

1.5.3.3 Compliance with Regulations

The Contractor shall ensure and demonstrate compliance with applicable State or local waste disposal, sanitary sewer or septic system regulations.

PART 2 PRODUCTS

2.1 FILTER FABRIC FOR SILT SCREEN FENCE

The geotextile, as defined by ASTM D 4439, shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. The filament shall consist of a long-chain synthetic polymer composed of at least 85 percent by weight of ester, propylene, or amide, and shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistance to deterioration due to ultraviolet and heat exposure. The geotextile shall conform to the physical property requirements in paragraph ACCEPTANCE REQUIREMENTS, subparagraph TESTING.

2.2 ACCEPTANCE REQUIREMENTS

2.2.1 General

All brands of geotextile to be used will be accepted on the following basis.

2.2.2 Mill Certificates or Affidavits

The mill certificate or affidavit shall attest that the silt screen fabric and factory seams meet chemical, physical, and manufacturing requirements specified. The mill certificate of affidavit shall specify the actual Minimum Average Roll Values and shall identify the fabric supplied by roll identification numbers.

2.2.3 Testing

If requested by the Contracting Officer, Government personnel shall collect filter fabric samples in accordance with ASTM D 4354 for testing to determine compliance with any or all of the requirements specified pursuant to ASTM D 4759 and the following table:

EXTRA STRENGTH FILTER FABRIC FOR SILT SCREEN FENCE

PHYSICAL PROPERTY	TEST PROCEDURE	REQUIREMENTS
Grab Tensile Elongation (%)	ASTM D 4632	100 lbs. min. 30 % max.
Trapezoid Tear	ASTM D 4533	55 lbs. min.
Mullen Burst	ASTM D 3786	270 lbs. min.
Permittivity	ASTM D 4491	0.2 sec-1

AOS (U.S. Std Sieve)	ASTM D 4751	20-100

NOTE: Standard strength filter fabric for silt screen fence shall meet the same minimum requirements for AOS and Permittivity as the extra strength filter fabric, but may have lower strengths for the remaining properties listed in the table.

2.3 IDENTIFICATION, STORAGE AND HANDLING

Filter fabric shall be identified, stored and handled in accordance with ASTM D 4873.

PART 3 EXECUTION

3.1 MAINTENANCE

The Contractor shall maintain the permanent vegetation, erosion and sediment control measures, and other protective measures in good and effective operating condition by performing routine inspections to determine condition and effectiveness, by restoration of destroyed vegetative cover, and by repair of erosion and sediment control measures and other protective measures. The following procedures shall be followed to maintain the protective measures identified in the SWPP Plan.

a. Silt Fences

Silt fences shall be inspected in accordance with paragraph INSPECTIONS. Any required repairs shall be made promptly. Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. Should the fabric on a silt fence decompose or become ineffective, and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits shall be removed when deposits reach one-third of the height of the barrier. When a silt fence is no longer required, it shall be removed. The immediate area occupied by the fence and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall receive erosion control as required by Section 02960 EROSION CONTROL.

b. Straw Bales

Straw bale barriers shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged bales, end runs and undercutting beneath bales. Necessary repairs to barriers or replacement of bales shall be accomplished promptly. Sediment deposits shall be removed when deposits reach one-half of the height of the barrier. When a straw bale barrier is no longer required, it shall be removed. The immediate area occupied by the bales and any sediment deposits shall be shaped to an acceptable grade. The areas disturbed by this shaping shall receive erosion control as required by Section 02960 EROSION CONTROL.

c. Diversion Dikes

Diversion dikes shall be inspected in accordance with paragraph INSPECTIONS. Close attention shall be paid to the repair of damaged diversion dikes and necessary repairs shall be accomplished promptly. When diversion dikes are no longer required, they shall be shaped to an acceptable grade. The areas disturbed by this shaping shall receive

erosion control as required by Section 02960 EROSION CONTROL.

3.2 INSPECTIONS

3.2.1 General

The Contractor shall inspect disturbed areas of the construction site, areas used for storage of materials that are exposed to precipitation that have not been finally stabilized, stabilization practices, structural practices, other controls, and areas where vehicles exit the site at least once every seven (7) calendar days and within 24 hours of the end of any storm that produces 4 inches or more rainfall at the site. Where sites have been finally stabilized, such inspection shall be conducted at least once every month.

3.2.2 Inspections

Disturbed areas and areas used for material storage that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPP Plan shall be observed to ensure that they are operating correctly. Discharge locations or points shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles exit the site shall be inspected for evidence of offsite sediment tracking.

3.2.3 Inspection Reports

For each inspection conducted, the Contractor shall prepare a report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPP Plan, maintenance performed, and actions taken in accordance with paragraph REVISIONS TO THE SWPP PLAN. The report shall be signed by the Contractor. The report shall be furnished to the Contracting Officer within 24 hours of the inspection as a part of the Contractor's daily CQC REPORT. A copy of the MS Storm Water Pollution Prevention Plan Inspection Report is included at the end of this section. A log of the inspection dates shall be maintained on the job site and become a part of the SWPP Plan.

3.2.4 Monthly Inspection Report and Certification Form for Erosion and Sediment Controls

On the first working day of each month the Contractor shall complete, sign and submit the original form to the Mississippi Office of Pollution Control (OPC) at the following address:

Chief, Industrial Wastewater Branch
Office of Pollution Control, Dept. of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385

A copy of the State of Mississippi's Monthly Inspection Report and Certification Form for Erosion and Sediment Controls is found at the end of this section. On the first working day of each month, the Contractor shall also furnish one copy of the form submitted to OPC to the Contracting Officer as part of the Contractor's daily CQC Report and attach a copy of the completed form to the Plan. Unless notified by the OPC otherwise, the Contractor shall submit the Monthly Inspection Report and Certification

Forms for an additional two months after the final completion of all storm water pollution prevention measures required in this contract have been implemented.

3.2.5 Revisions to the SWPP Plan

Based on the results of the inspection and immediately after the inspection, the Contractor shall provide to the Contracting Officer any recommended changes to the SWPP Plan. The Contracting Officer will approve or disapprove the proposed changes within seven (7) calendar days after receipt. Changes to the SWPP Plan shall be implemented within seven (7) calendar days following approval.

-- End of Section --

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

CONSTRUCTION (5 OR MORE ACRES[1]) NOTICE OF INTENT (CNOI) FOR COVERAGE UNDER CONSTRUCTION STORM WATER GENERAL NPDES PERMIT MSR10 __ __ __ __
(Number to be assigned by State)

(file at least 30 days prior to the commencement of construction; 15 days if Storm Water Pollution Prevention Plan is already on file)

Applicant must be owner or prime contractor.
(Applicant receives coverage and is responsible for permit compliance; see p. 3)

IS APPLICANT THE OWNER OR PRIME CONTRACTOR? (circle one or both)

OWNER CONTACT PERSON: _____

OWNER COMPANY NAME: _____

OWNER STREET (P. O. BOX): _____

OWNER CITY: _____ **STATE:** _____ **ZIP:** _____

OWNER TELEPHONE NUMBER (INCLUDE AREA CODE): _____

(Fill in prime contractor's name & address if known)

PRIME CONTRACTOR CONTACT PERSON: _____

PRIME CONTRACTOR COMPANY: _____

PRIME CONTRACTOR STREET (P. O. BOX): _____

PRIME CONTRACTOR CITY: _____ **STATE:** _____ **ZIP:** _____

PRIME CONTRACTOR PHONE # (INCLUDE AREA CODE): _____

PROJECT NAME: _____

DESCRIPTION: _____

PROJECT LOCATION: City _____ **County** _____

TOTAL ACREAGE[1] THAT WILL BE DISTURBED: _____

[1]Acreage for subdivision development includes areas disturbed by construction of roads, utilities and drainage. Additionally, a housesite area of at least 10,000 ft^2 per lot (entire lot, if smaller) shall be included in calculating acreage disturbed.

ATTACH A USGS QUAD MAP OUTLINING SITE LOCATION.
Maps can be obtained from the Office of Geology: 601-961-5523

RECEIVING STREAM(S): _____

EST. START DATE_____EST. COMPLETION DATE_____

TYPE SOIL ON SITE: _____

NATURE OF PROPOSED FILL MATERIAL: _____

IS THERE ANY US ARMY CORPS OF ENGINEERS PERMIT FOR THIS SITE? _____

ATTACH A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). (SEE PERMIT)

IF USING AN ASSOCIATION OR GENERIC SWPPP ALREADY SUBMITTED, GIVE NAME:

_____

PERMIT COVERAGE FOR BORROW AND TOPPING PITS MAY BE NEEDED AND MUST BE APPLIED FOR SEPARATELY.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____
Signature[1] DATE SIGNED

_____ _____
Printed Name[1] Title

[1]This application shall be signed according to the General Permit, Part V.E., as follows:

- For a corporation, by a responsible corporate officer.
- For a partnership, by a general partner.
- For a sole proprietorship, by the proprietor.
- For a municipal, state or other public facility, by either a principal executive officer, the mayor, or ranking elected official.
- Duly Authorized Representative.

State of Mississippi
Water Pollution Control
STORM WATER
CONSTRUCTION GENERAL PERMIT

TO DISCHARGE STORM WATER IN ACCORDANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

THIS CERTIFIES THAT

projects granted a Certificate of Permit Coverage under this permit are granted permission to discharge

storm water associated with industrial activity

into

State waters

in accordance with effluent limitations, inspection requirements and other conditions set forth in Parts I through VII hereof. This permit is issued in accordance with the provisions of the Mississippi Water Pollution Control Law (Section 49-17-1 et seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated threunder, and under authority granted pursuant to Section 402(b) of the Federal Water Pollution Control Act.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

HEAD, OFFICE OF POLLUTION CONTROL
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit Issued: July 14, 1992 Permit No. MSR10

Permit Modified: November 24, 1992, October 11, 1994

Permit Expires: July 13, 1997

CONSTRUCTION STORM WATER
GENERAL NPDES PERMIT

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Total Pages with Cover - 10

Part I. Coverage Under this Permit

A. **Permit Area.** The permit covers all areas of the State of Mississippi.

B. **Eligibility. For discharges composed entirely of storm water from construction activity including clearing, grading and excavation disturbing 5 or more acres.**

C. **Authorization.** Owners and/or prime contractors must submit a Construction Notice of Intent (CNOI) in accordance with the requirements of Part II. Only upon receipt of written notification of approval of coverage by the OPC staff, owners or operators are authorized to discharge storm water associated with industrial activity under the terms and conditions of this permit. Upon review of the CNOI, the staff may deny coverage and require an alternate permit. OPC staff decisions may be brought before the Environmental Quality Permit Board for review and reconsideration at the next regularly scheduled meeting. Discharge of storm water without written notification of coverage is a violation of state law.

D. **Requiring an Individual Permit or Alternative General Permit.**

1. The Mississippi Office of Pollution Control (OPC) may require any covered person to apply for and obtain either an individual or an alternative general NPDES permit. Any interested person may petition the OPC to take action under this paragraph. The OPC may require any covered person to apply for an individual NPDES permit only if the owner or operator has been notified in writing. This notice shall include reasons for this decision, an application form and a filing deadline. The OPC may grant additional time upon request. If a person fails to submit in a timely manner a requested application, coverage under this permit is automatically terminated at the end of the day specified for application submittal.

2. Any covered person may request to be excluded from permit coverage by applying for an individual permit or coverage under another general permit. The person shall submit an individual application (Form 1 and the narrative requirements of 40 CFR 122.26(c)(1)(ii)) or appropriate NOI to the Office of Pollution Control.

3. Coverage under this permit is automatically terminated on the issuance or coverage date of the respective alternate individual or general NPDES permit. When an alternate individual or general NPDES permit is denied, coverage under this permit continues unless terminated on the date of such denial by the OPC.

Part II. Construction Notice of Intent

A. **Deadlines for Notification.** Persons desiring coverage for an existing storm water discharge associated with industrial activity under this general permit shall submit a Construction Notice of Intent (CNOI) Form at least 30 days prior to the commencement of construction, or 15 days if the storm water pollution plan has previously been approved. CNOI Forms may be obtained from the Mississippi Office of Pollution Control at the address given below.

B. **Submission by Owner and/or Prime Contractor.** The CNOI may be submitted by the owner or prime contractor. The owner may submit the CNOI and, later prior to actual construction, the prime contractor submit the CNOI certification that he is responsible to meet all permit conditions. Otherwise the initial applicant is responsible for permit compliance.

C. **Where to Submit the Construction Notice of Intent.** Complete and appropriately signed CNOI Forms must be submitted to:

Chief, Industrial Wastewater Branch
Office of Pollution Control, Dept of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385

D. **Additional Notification.** The covered owner or contractor must notify the Office of Pollution Control at least thirty days before any planned changes of ownership or whenever there are any other changes in information previously submitted to the OPC in the CNOI.

E. **Renotification.** At expiration, this permit will be reissued and sent to all covered owners or prime contractors. Renotification must be made in accordance with the requirements of the reissued permit. If any person is dissatisfied with the reissued general permit, application for an individual permit may be made in accordance with Part I.D.2.

F. **Failure to Notify.** Persons who fail to submit a CNOI and discharge storm water associated with industrial activity to waters of the State without an NPDES permit are in violation of state law.

Part III. Storm Water Pollution Prevention Plan.

A. **Plan Development.** A storm water pollution prevention plan shall be developed by each owner or contractor subject to this permit. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with construction activity. The plan shall describe and ensure the implementation of practices which will reduce pollutants in storm water discharges and assure compliance with the terms and conditions of this permit.

1. The plan shall be signed per Part V.E., and submitted to the Office of Pollution Control, with a copy retained at the permitted site.

2. The plan shall be submitted with the CNOI.

3. If the owner or contractor has already submitted a plan which is applicable to a subsequent project, then only a certification to this affect is needed on the CNOI.

4. The plan shall provide for compliance with the terms of the plan upon commencement of construction.

5. When the storm water discharges through a municipal separate storm system with an NPDES permit, the owner or contractor shall make the plan available upon request to the municipal operator.

6. The OPC may notify the covered owner or contractor at any time that the plan does not meet the minimum requirements of this Part. After notification, the covered owner or contractor shall change the plan and certify in writing to the OPC that the requested changes have been made. Unless otherwise provided by the OPC, the requested changes shall be made within 30 days.

7. The owner or contractor shall amend the plan whenever there is a change in design, construction, operation, or maintenance, which may potentially effect the discharge of pollutants to State waters or the plan proves to be ineffective in controlling storm water pollutants, and shall submit it to the OPC within 30 days of amendment.

B. **Plan Details:**

1. **Erosion and Sediment Controls.** The owner or contractor shall describe controls appropriate for the construction activities, including stored excavated or fill material, and procedures for implementing such controls. The controls should: (1) divert upslope water around disturbed areas of the site; (2) limit the exposure of disturbed areas to the shortest amount of time as possible; (3) minimize the amount of surface area that must be disturbed; (4) implement best management practices to mitigate adverse impacts from storm water runoff; and (5) remove sediment from storm water before it leaves the site. **As a minimum, the controls must be in accordance with the standards set forth in "Planning and Design Manual for the Control of Erosion, Sediment & Stormwater," MSDEQ, MSSWCC, U. S. Dept. of Agriculture SCS, Jackson, MS, 1994, or other recognized manual of design.** The description shall address the following minimum components:

   a. **Vegetative practices** shall be designed to preserve existing vegetation where possible and revegetate disturbed areas as soon as practicable after grading or construction. Such practices may include surface roughening, temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, and protection of trees.

   b. **Structural practices** shall divert flows from exposed soils, store flows or otherwise limit runoff from exposed areas. Such practices may include construction entrance/exit, straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, drain inlet protection, outlet protection, detention/retention basins, sediment traps, temporary sediment basins or equivalent sediment controls.

   c. **Controls for individual lots in subdivisions.** Plans for subdivisions shall require that builders or lot owners take measures to prevent or mitigate sediment from leaving individual lots. This can be accomplished through contract language, a copy of which must be submitted with the plan.

   d. **Post construction control measures** shall include needed on-site infiltration of runoff, flow attenuation using open vegetated swales and natural depressions, and retention structures. Where needed, velocity dissipation devices shall be placed at detention or retention pond outfalls and along the outfall channel to provide a non-erosive flow. Justification may be required where control measures are not used.

2. **Implementation of Controls.** The plan shall require the owner or contractor, in disturbing an area, to implement controls as needed to prevent erosion and adverse impacts to downslope offsite areas and receiving streams. When work is completed or discontinued in a disturbed area, the plan shall call for appropriate vegetative and structural practices to be initiated within seven calendar days or other accepted schedule. See Part IV.B.1.

3. **Maintenance and Weekly Inspections.** Describe procedures to maintain vegetation, erosion and sediment controls and other protective measures. Procedures shall provide that all erosion controls are inspected at least once every seven calendar days. See Part IV.C.,D.

Part IV. Non-Numeric Limitations, Inspections, Maintenance and Reporting

A. **Storm water discharges shall be free from:**

1. debris, oil, scum, and other floating materials other than in trace amounts.

2. eroded soils and other materials that will settle to form objectionable deposits in receiving waters;

3. suspended solids, turbidity and color at levels inconsistent with the receiving waters;

4. chemicals in concentrations that would cause violation of State Water Quality Criteria in the receiving waters.

B. **Permittee shall**

1. install needed erosion controls even if they may be located in the way of subsequent activities, such as utility installation, grading or construction. It shall not be an acceptable defense that controls were not installed because subsequent activities would require their replacement or cause their destruction.

2. minimize off-site vehicle tracking of sediments.

3. comply with applicable State or local waste disposal, sanitary sewer or septic system regulations.

4. have daily access to nearby rain gage data or set up a rain gage on-site during construction to comply with Part IV.C.

5. comply with any municipal storm water management programs.

C. **Inspection Requirements:** Inspection of all erosion controls and other Storm Water Pollution Prevention Plan requirements shall be performed during permit coverage using a copy of the form provided in Part VII:

1. At least once every seven calendar days.

2. Within 24 hours after commencement of a rainfall event greater than or equal to a two-year 24-hour storm event - 6 inches on the Gulf Coast to 4 inches at the Tennessee state border.

3. As often as is necessary to ensure that appropriate erosion and sediment controls have been properly constructed and maintained.

D. **Maintenance:** All erosion controls must be maintained. As a minimum all accumulated sediment shall be removed from controls when it reaches 1/3 to 1/2 the height of the control and properly disposed. Non-functioning controls shall be repaired, replaced or supplemented with functional controls within 24 hours of discovery or as soon as field conditions allow.

E. **Reporting:** The inspections described in B. must be reported on copies of the form provided in Part VII. The report forms are to be submitted monthly postmarked no later than the 28th day of the month following the inspection(s). Reports shall be submitted to the Mississippi Office of Pollution Control at the following address:

Chief, Industrial Wastewater Branch
Office of Pollution Control, Dept of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385

F. **Retention of Records:** All records, reports and information resulting from activities required by this permit shall be retained for a period of at least three years from the date of the CNOI, inspection or report.

G. Noncompliance Reporting:

1. **Anticipated Noncompliance.** The owner or operator shall give at least 10 days advance notice, if possible, before any planned noncompliance with permit requirements.

2. **Unanticipated Noncompliance.** The owner or operator shall notify the Mississippi Office of Pollution Control (OPC) orally within 24 hours from the time he or she becomes aware of unanticipated noncompliance. A written report shall be provided to the OPC within 5 working days of the time he or she becomes aware of the circumstances. The report shall describe the cause, the exact dates and times, steps taken or planned to reduce, eliminate, or prevent reoccurrence and, if the noncompliance has not ceased, the anticipated time for correction.

H. **Termination of Reporting and Permit Coverage.** Upon successful completion of all permanent erosion and sediment controls for a covered project a certification of same shall be submitted to the Office of Pollution Control. Inspections must continue for at least eight weeks beyond completion. If controls have been successful during these eight weeks, reporting and permit coverage are automatically terminated unless the owner or prime contractor is otherwise notified by the Office of Pollution Control within 30 days of receiving the final inspection report.

Part V. Other Permit Conditions.

A. **Duty to Comply.** Any permit noncompliance constitutes a violation of the Mississippi Water Pollution Control Law and is grounds for enforcement action or coverage termination and requiring reapplication in accordance with Part I.D.1. It shall not be a defense in an enforcement action that it would have been necessary to halt or reduce the regulated activity in order to maintain compliance with the conditions of this permit.

B. **Continuation of the Expired General Permit.** An expired general permit continues in force and effect until a new general permit is issued.

C. **Duty to Mitigate.** The owner or operator shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which is likely to adversely affect human health or the environment.

D. **Duty to Provide Information.** The owner or operator shall furnish to the OPC, within a reasonable time, any information which the OPC may request to determine compliance with this permit.

E. **Signatory Requirements.** All CNOIs, storm water pollution prevention plans, reports, certifications or information submitted to the OPC shall be signed as follows or by the duly authorized representative (see F.):

1. **For a corporation:** By a responsible corporate officer. For this permit, a responsible corporate officer means: a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or b) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25,000,000 (in second-quarter 1980 dollars) if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

2. **For a partnership or sole proprietorship:** By a general partner or the proprietor, respectively; or

3. **For a municipal, State, Federal, or other public agency:** by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: a) the chief executive officer of the agency, or b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

F. **Duly Authorized Representative.** A person is a duly authorized to sign submissions to the Office of Pollution Control only if:

1. The authorization is made in writing by a person described in E., above, and submitted to the OPC.

2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated activity, such as manager, operator, superintendent or one having overall environmental responsibility. (A duly authorized representative may be a named individual or any individual occupying a named position).

3. Changes to Authorization. If an authorization is no longer accurate because a different individual or position has permit responsibility, a new authorization satisfying the above requirements must be submitted to the OPC prior to or together with any reports, information or applications signed by the representative.

G. **Certification.** Any person signing documents under this section shall make the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

H. **Oil and Hazardous Substance Liability.** Nothing in this permit shall relieve the owner or operator from responsibilities, liabilities, or penalties under Section 311 of the CWA.

I. **Property Rights.** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

J. **Severability.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

K. **Transfers.** This permit is not transferable to any person except after notice to and approval by the OPC. The OPC may require the permittee to obtain another NPDES permit as stated in Part I.D.

L. **Proper Operation and Maintenance.** The owner or operator shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the

owner or operator to achieve compliance with the conditions of this permit including the storm water pollution prevention plan. Proper operation and maintenance includes adequate laboratory controls with appropriate quality assurance procedures and requires the operation of backup or auxiliary facilities when necessary to achieve compliance with permit conditions.

M. **Bypass Prohibition:** Bypass (see 40 CFR 122.41(m)) is prohibited and enforcement action may be taken against a owner or operator for a bypass, unless: **a)** The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; **b)** There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This conditions is not satisfied if the owner or operator should, in the exercise of reasonable engineering judgement, have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and **c)** The owner or operator submitted notices per Part IV.G.

N. **Upset Conditions.** An upset (see 40 CFR 122.41(n)) constitutes an affirmative defense to an action brought for noncompliance with technology-based permit limitations if a permittee shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, that: **1)** An upset occurred and the permittee can identify the specific cause(s) of the upset, **2)** The permitted facility was at the time being properly operated, **3)** The permittee submitted notices per Part IV.G.2., and **4)** The permittee took remedial measures as required under Part V.C. In any enforcement proceeding, the permittee has the burden of proof that an upset occurred. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

O. **Inspection and Entry.** The owner or operator shall allow the OPC or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the owner or operator's premises where a regulated activity is located or conducted or where records must be kept under the conditions of this permit;

2. Have access to and copy at reasonable times any records that must be kept under the conditions of this permit; and

3. Inspect at reasonable times any facilities or equipment.

P. **Permit Actions.** This permit may be modified, revoked and reissued, or terminated for cause. A request by the owner or operator for permit or coverage modification, revocation and reissuance, or termination, or a certification of planned changes or anticipated noncompliance does not stay any permit condition.

Part VI. Reopener Clause

A. **Requirement to Obtain Individual or Alternative General Permit.** If there is evidence indicating potential or realized impacts on water quality due to storm water discharge covered by this permit, the owner or operator may be required to obtain individual permit or an alternative general permit in accordance with Part I.D. or the permit may be modified to include different limitations and/or requirements.

B. **Permit Modification.** Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64 and 124.5.

Part VII. **Monthly Inspection Report and Certification Form**
For Erosion and Sediment Controls
Inspections must be done weekly and
after a Two-Year, 24-Hour Rainfall (4 inches at the Tenn. border to 6 inches on the Gulf Coast)

Construction Storm Water General NPDES Permit No. MSR10 _ _ _ _
(Fill in your Certificate of Coverage Number)

(Please Print)

Owner and/or Prime Contractor: _____

Project Name: _____ Location: _____ Startup date: _____

Date all erosion/sediment controls were completed (inspections must continue for another 8 weeks): _____

Inspection Log

Date	Time	After a 2-YR 24-Hr Rain?	Rain Gage Measurement (inches)	Any Deficiencies observed? (Y or N)	Inspector(s)
____	____	Yes or No	_____	Yes or No	_____
____	____	Yes or No	_____	Yes or No	_____
____	____	Yes or No	_____	Yes or No	_____
____	____	Yes or No	_____	Yes or No	_____
____	____	Yes or No	_____	Yes or No	_____
____	____	Yes or No	_____	Yes or No	_____

Deficiencies Noted During any Inspection (give date; attach additional sheets if necessary):

_____

_____

Corrective Action Taken or Planned (give date(s); attach additional sheets if necessary):

_____

_____

Based upon this inspection which I or personnel under my direct supervision conducted, I certify that all erosion and sediment controls have been implemented and maintained, except for those deficiencies noted above, in accordance with the Storm Water Pollution Prevention Plan filed with the Office of Pollution Control and good engineering practices as required by the above referenced permit.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

_____ _____ _____
Authorized Name (Print) Signature Date

These reports shall be submitted monthly, as required in the permit, to: Chief, Industrial Branch
Office of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

Mississippi Storm Water Pollution Prevention Plan
Inspection Report

To be completed every 7 days and within 24 hours of a rainfall event of 4.0 inches or more.

Construction Storm Water General NPDES Permit No. _____
Project: _____
Location: _____

Prime Contractor: _____

Date of Inspection: _____**Date of last rainfall:** _____

Rain Gage Measurement (inches): _____

Inspected By: _____

Vegetative Sediment Erosion Controls Inspected (examples include: surface roughening, temporary seeding, permanent seeding, mulching, sod stabilization, vegetative buffer strips, tree protection, etc.).
_____
_____
_____

Deficiencies Noted: _____
_____
_____
_____

Corrective Action Taken: _____
_____
_____

Structural Practices Inspected (examples include construction entrance/exit, silt fences, brush barriers, drainage swales, check dams, detention/retention basins, sediment traps, temporary sediment basins etc). _____
_____
_____
_____

Deficiencies Noted: _____
_____
_____

Corrective Action Taken: _____
_____
_____

Additional Comments: _____
_____
_____

Inspector's Signature: _____

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02212

CLEARING AND GRUBBING

-- End of Section Table of Contents --

SECTION 02212

CLEARING AND GRUBBING

PART 1 GENERAL

1.1 REGULATORY REQUIREMENTS

The regulation requirements listed below form a part of this specification to the extent referenced. The regulatory requirements are referred to in the text by basic designation only.

MISSISSIPPI BUREAU OF POLLUTION CONTROL (MS BPC)

MS BPC-APC-S-1	(1970; Amended Jan 1998) Mississippi Air Quality Regulations

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 CLEARING

3.1.1 General

Clearing, unless otherwise specified, shall consist of the complete removal above the ground surface of all trees, stumps, down timber, snags, brush, vegetation, piling, loose stone, existing gravel surfacing, structures, fencing, drift, trash, and similar debris. If regrowth of vegetation or trees occurs after clearing and grubbing and before subsequent construction operations, the Contractor will be required to clear and grub the area again, and no payment will be made for this additional clearing and grubbing. Measures shall be taken to insure that debris as a result of clearing do not enter the river.

3.1.2 Merchantable Timber

The landowners have reserved the right to harvest merchantable timber within the area to be cleared between mile 152.40 and mile 153.86 until 31 December 1999. The Contractor will not be permitted to clear these areas until after the above date. Merchantable timber remaining within all other areas to be cleared on or after the date of award of this contract, and merchantable timber remaining within the area to be cleared between mile 152.40 and mile 153.86 after 31 December 1999, may be disposed of as the Contractor sees fit, as long as such merchantable timber is either removed from the right-of-way indicated or is satisfactorily disposed of in accordance with the provisions of paragraph DISPOSAL OF DEBRIS. The Contractor is precluded from making any claim for time extensions, costs, or damage to his operations by reason of the existence or nonexistence of merchantable timber, crops, debris, or stumps within the areas to be cleared or by reason of the above specified timber reservation between mile 152.40 and mile 153.86.

3.1.3 Trees

Trees shall be felled in such a manner so as to avoid damage to trees to be

left standing, to existing structures and installations, and to those under construction, and with due regard for the safety of employees and others.

3.1.4 Vegetation Removal

Vegetation to be removed shall consist of crops, grass, bushes and weeds. Close-growing grass and other vegetation shall be removed from areas to receive dike fill to provide a completely bare earth surface immediately prior to foundation preparation. Acceptance of the vegetation removal operation shall precede the initiation of foundation preparation in the area from which vegetation has been removed.

3.1.5 Areas to be Cleared

3.1.5.1 Retaining Dikes

The entire area to be occupied by retaining dike embankment, together with strips 5 feet wide contiguous thereto, shall be cleared. All clearing work for retaining dike embankments shall be completed at least 500 feet in advance of retaining dike embankment construction.

3.1.5.2 Disposal Area

a. Disposal Facility Borrow Areas

The portion of the disposal area from which borrow material will be obtained shall be cleared to the extent necessary to provide materials free from unsuitable materials as defined in Section 02232 DIKES, paragraph UNSUITABLE MATERIALS.

b. Disposal Facility Non-Borrow Areas

In the portion of the disposal area that are not used as borrow areas, all growth shall be up rooted or cut off not more than one foot above the ground line, except that growth standing in water in areas that do not have to be drained shall be cut off not more than one foot above the water surface.

3.1.5.3 Channel Excavation

The Contractor shall stake the right-of-way limit and new top bank in the field before beginning any clearing for channel excavation. Only that clearing which is necessary for the Contractor's method of operation, not to exceed 50 feet beyond the new top bank, will be permitted. These areas shall be cleared to the existing ground surface before beginning the excavating process. Clearing and required disposal of debris shall be completed at least 500 feet in advance of channel excavation. No clearing for channel excavation will be permitted more than 2,000 feet in advance of channel excavation unless otherwise authorized by the Contracting Officer.

3.1.5.4 Pipeline, Return Ditch and Equipment Routes

Clearing and grading for pipeline and return ditch access routes, except existing ditches, and for equipment access routes shall be limited to the minimum which will permit efficient access for pipelines, ditches, and the equipment. The Contractor shall establish on the ground his proposed clearing widths and right-of-way limits for access and these widths will be subject to approval. Clearing operations shall not begin on the access routes before said approval is obtained.

3.1.5.5 Bank Stabilization Areas

The river bank shall be cleared of all trees, brush, drift, car bodies, miscellaneous debris, or other obstruction that would hinder excavation or grading, and subsequent construction operations. Clearing shall be limited to the absolute minimum necessary for construction of the work. Any materials of value removed shall be stockpiled behind top bank as directed by the Contracting Officer. Care shall be taken by the Contractor not to cut or injure any trees which do not unreasonably interfere with the construction. It is the intent of these specifications that growth around the work area be preserved to the maximum extent practicable. Clearing for access roads or storage areas shall be limited to approved areas.

3.2 GRUBBING

3.2.1 General

Grubbing shall consist of the removal of all stumps, roots, buried logs, old piling, paving, foundations, pipes, drains, and other unsuitable matter as described in Section 02232 DIKES, paragraph UNSUITABLE MATERIALS.

3.2.2 Areas to be Grubbed

3.2.2.1 Retaining Dikes

Grubbing shall be performed within the limits of the retaining dike embankment together with the 5 foot strips contiguous thereto. All roots and other projections over 1-1/2 inches in diameter shall be removed to a depth of 3 feet below the natural surface of the ground or surface of existing embankments. The areas to be grubbed are those specific areas, within the limits specified, from which trees, stumps, down timber, snags, piling, structures, and other projections have been removed. All grubbing work for dike embankments shall be completed at least 500 feet in advance of retaining dike embankment construction.

3.2.2.2 Disposal Area

The portions of the disposal area from which borrow material will be obtained shall be grubbed to the extent necessary to provide materials free from unsuitable materials as described in Section 02232 DIKES.

3.2.2.3 Channel Excavation

Grubbing for channel excavation will not be required.

3.2.2.4 Return Ditches

All stumps and exposed roots and other obstructions shall be removed from within the limits of the return ditches.

3.2.2.5 Bank Stabilization Areas

All stumps exposed during excavation or grading operations shall be either cut off flush with the finished slope grade or grubbed out. Prior to placing stone, all snags, stumps, or other obstructions shall be removed from the area to be covered by the stone. As directed by the Contracting Officer, timber debris, and miscellaneous debris shall be removed to provide for placement of stone.

3.2.3 Pipes and Drains

The Contractor shall inform the Contracting Officer of all pipes and drains not shown on the drawings which are encountered during grubbing. Such pipe and drains shall not be removed or disturbed until so directed.

3.2.4 Filling of Holes

Holes resulting from grubbing operations that are within the limits of the disposal area dike foundation shall be backfilled with material suitable for dike construction in 12 inch layers to the elevation of the adjacent ground surface, and each layer compacted to a density at least equal to that of the adjoining undisturbed material.

3.3 DISPOSAL OF DEBRIS

3.3.1 General

The primary method of disposing of all debris resulting from all clearing and grubbing operations shall be burning as specified in paragraph BURNING. The following additional methods will also be permitted: burying as limited by paragraph BURYING or removal from the site in accordance with paragraph REMOVAL FROM SITE OF WORK. The Contractor shall make a reasonable effort to channel merchantable material into the commercial market to make beneficial use of materials resulting from clearing operations.

3.3.2 Burning

The Contractor shall comply with all applicable federal regulations and Mississippi Air Quality Regulations, Regulation MS BPC-APC-S-1. See paragraph REGULATORY REQUIREMENTS. Subject to such restrictions and obtaining any permit which may be required by said State or Federal agency, the Contractor may burn material within the contract area, and at any time within the contract period. Burning operations shall be conducted so as to prevent damage to standing timber or other flammable growth. The Contractor shall be responsible for any damage to life and property resulting from fires that are started by his employees or as a result of his operations. The Contractor shall furnish, at the site of burning operations, adequate fire fighting equipment to properly equip his personnel for fighting fires. Fires shall be guarded at all times and shall be under constant surveillance until they have been extinguished.

3.3.3 Burying

Debris which cannot be reduced to ashes by open flame burning may be buried. The Contractor, in accordance with the following provisions, may elect to bury the unburned debris behind the new top bank. If the unburned debris is buried behind the new top bank, it shall be placed in holes deep enough to contain the unburned material covered with a minimum of 2 feet of earth. This burying shall be in the strip which is between 10 feet and 25 feet landward of the new top bank and in lengths not to exceed 100 feet.

3.3.4 Removal from Site of Work

The Contractor may elect to remove all or part of the debris from the site of the work. Such disposal shall comply with all applicable Federal, State and local laws. The Contractor shall, at his option, either retain for his

own use or dispose of by sale or otherwise, any such materials of value. The Government is not responsible for the protection and safekeeping of any materials retained by the Contractor. Such materials shall be removed from the site of the work before the date of completion of the work. If debris from clearing operations is placed on adjacent property, the Contractor shall obtain, without cost to the Government, additional right-of-way for such purposes in accordance with Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph RIGHTS-OF-WAY. Such material shall be so placed as not to interfere with roads, drainage or other improvements and in such a manner as to eliminate the possibility of its entering into channels, ditches, or streams. The Contracting Officer reserves the right to approve or disapprove the use of Contractor-furnished debris disposal areas based on the location of the areas and a determination of the overall impact the proposed debris disposal areas will have on the environment or cultural sites. Contractor-furnished debris disposal areas shall not be located in woodlands or wetlands.

3.3.5 Removal of Pipes and Drains

Pipes and drains designated as salvageable by the Contracting Officer, and which are to be removed from within the designated limits of work, will not become the property of the Contractor, but shall be stored by the Contractor on accessible sites within the right-of-way, at locations designated by the Contracting Officer. Removal operations shall be conducted in such a manner that material designated to be salvaged will not be damaged.

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SECTION 02225

DISPOSAL OF DREDGED MATERIAL

SECTION 02225

DISPOSAL OF DREDGED MATERIAL

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Testing; FIO.

The Contractor shall submit copies of all test reports, as well as records of corrective actions taken, to the Contracting Officer as soon as practical after testing and before any material is delivered or placed.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Wooden Members

All wooden members used in the control structures and control weirs shall be treated with Pentachlorophenol in a 4 1/2 - 5 percent solution of heavy petroleum solvent and shall have a minimum net retention of 0.6 pound per cubic foot.

PART 3 EXECUTION

3.1 GENERAL

The material from channel excavation shall be transported and deposited in such a manner to ensure that no damage will occur to growing crops, highways, levees, drainage systems, pipelines, utility lines, structures, or other improvements. All material shall be placed in the designated disposal area or in required embankments. Contractor-furnished disposal area(s) for dredged material shall not be used. Haul of material excavated above the water line is allowed. It is the responsibility of each prospective bidder to visit the areas as an aid in making his bid. Within 15 days after receipt of Notice of Award of the contract, the Contractor shall submit for approval, complete plans for the location, design, construction, and maintenance of the control structure, control weir, ditches, and return structure for hydraulic dredged material the disposal area; and complete haul and grading plans for the disposal area where materials are hauled; or complete plans for the combination thereof. For the hydraulic dredged material disposal area, approval of the completed dikes (except new turf establishment), control structures, weirs ditches, and return structures for the disposal area must be obtained from the Contracting Officer before the Contractor shall place dredged material into the disposal area.

3.2 DISPOSAL FACILITY

3.2.1 General

During initial filling of the disposal facility, Contractor will be allowed to discharge off the dikes as long as the integrity of the dike is not in danger. When sufficient water exists in the disposal area to float a discharge line, the Contractor may elect the method of placement of material in the disposal area to be from a floating pipeline equipped with cables so that it can be moved back and forth across the width while discharging. Discharge from the floating line shall always be in a direction away from the effluent return structure. Material shall be deposited in a manner that will produce the required material surface conditions for placement of the top agricultural fill layer. Any encroachment by disposed material or effluent into the freeboard requirement shall be sufficient reason to require the Contractor to cease pumping operations until the specified freeboard is attained. A splitter spoon or other approved devices shall be installed on the discharge pipe.

3.2.2 Placement

3.2.2.1 Capacity

The disposal area shall be filled with required excavation to not less than one foot below the elevations shown and to not more than the elevations shown, within allowable tolerance. The elevation shown is based on quantities determined from river survey sections taken at approximate 500 foot intervals and completed April 1994 and assumes all excavated material is placed in the disposal area.

3.2.2.2 Agricultural Fill

The top 1 foot of material deposited in the disposal area shall be agricultural fill. Agricultural fill shall consist of any of the following:

a. Material from required channel excavation that is excavated by land based means and hauled and placed in the disposal area as specified in Section 02229 CHANNEL EXCAVATION - LAND BASED.

b. Material excavated from within the disposal area prior to disposal operations that is stockpiled for the purpose of covering the dredged material. Material in the retention dikes above a line from the intersection of the inside finished disposal material surface and the inside face of the dike, to the outside toe of dike can also be used for this purpose.

c. Material from required channel excavation that is dredged and deposited in the disposal area in accordance with the procedures specified in paragraph DREDGED AGRICULTURAL FILL.

The 1 foot layer of agricultural fill is designed to give the Contractor maximum latitude in placing dredged material below the top 1 foot. The means of depositing agricultural fill shall be the sole responsibility of the Contractor. Where any portion of the disposal area is filled by dredge, and grading of the disposal area is necessary to meet surface specifications, the Contractor shall have to contend with working in saturated, unconsolidated soils to depths as can be determined from the site plans for the disposal area. The Government makes no warranty as to the possibility of accomplishing these tasks with conventional earth work equipment.

3.2.2.3 Dredged Agricultural Fill

The Contractor shall utilize a method that uniformly disperses the influent as it is discharged into the disposal area and minimizes segregation of soil particle sizes. The Contractor shall develop a plan to distribute the dredged material and submit the plan for acceptance. Acceptance of the plan must be obtained from the Contracting Officer before the Contractor shall place dredged material into the disposal area.

3.2.2.4 Possible Dredge Dispersal Methods

a. Influent Piping System

If the Contractor elects to use a piping (manifold) system, the Contractor shall design, construct, and maintain a piping system that will ensure the uniform distribution of the dredged material.

b. High Pressure Aerial Placement

If the Contractor elects to use high pressure aerial (spray) placement, the dredged material shall be discharged into the disposal area through a high pressure directional nozzle capable of wide dispersal of the material while minimizing segregation by particle size of the material. The nozzle shall move both horizontally and vertically. Bidders should be aware that Aztec Development Co., sole licensee, and Troy M. Deal, Jr., as patent holder, own patent rights to "Jet Spray" Systems. Use of the patented methods and apparatus contained in these patents could subject the Contractor to liability.

c. Floating Platform Placement

If the Contractor elects to use a floating platform for placement of the dredged material, it shall be of an appropriate size to support the pipe and dispersal equipment within the ponding depth that will be available with the disposal area at its final elevation. The Contractor shall provide a system of cables and winches, or other mechanism capable of continuously moving the platform to evenly disperse the dredged material. The dispersal equipment shall be of a design that essentially ejects the dredge influent in a vertical (upward) or near vertical direction. Limited past experience has demonstrated that using a horizontal discharge with a split spoon type end is unlikely to produce the required results. The turbulence caused by the horizontal influent stream makes predicting the point of deposition of incoming material very difficult.

3.2.2.5 Unrestricted Dredged fill

Dredged fill placed below the required top 1 foot of agricultural fill may be placed by any means suited to the Contractor's operation, however the following conditions shall be met.

a. As a minimum the top 1 foot of material within the disposal area shall be agricultural fill.

b. Dredged fill not placed in accordance with the requirements for agricultural fill that intrudes into the space designated for agricultural fill shall be removed prior to placement of agricultural fill. The Contractor shall be solely responsible for the means by

which this is accomplished knowing the adverse conditions that will exist in the partially filled disposal area.

c. The method of dredge placement shall not remove any material from the retention dike minimum cross section requirement.

d. Effluent shall meet all effluent quality requirements. The State of Mississippi effluent standards require that the turbidity 750 feet downstream of the discharge effluent do not exceed the upstream turbidity by more than 50 Nephelometric Turbidity Units (NTU).

3.2.2.6 Tolerances

The dredged material shall be placed to the required elevation. A tolerance of plus or minus five tenths of a foot from the required elevation will be permitted. The elevation shown is a target surface elevation for placing the dredged material. It is not a target elevation for the unwatered and consolidated surface. The Contractor shall remove all material deposited above the target elevation plus allowable tolerance.

3.2.3 Control Structures and Control Weirs

3.2.3.1 General

The Contractor shall design, construct, and maintain the control structures and control weirs. The weirs for controlling the release of return water to the river shall be designed and built so as to minimize the approach velocities to the structure and limit the flow depth over the weir. The same structures shall be used for effluent return and unwatering of the containment area. The weirs shall be located as shown on the drawings.

3.2.3.2 Sharp Crested Weirs

Weirs shall be designed, built, and required to perform as a sharp crested weir. "Sharp crested" shall mean that the thickness of the weir is small in comparison to the depth of flow over the weir. The weirs utilized in the disposal area will be considered "sharp crested" when the weir thickness is less than 2/3 the design depth of flow over the weir. The weirs shall be designed to limit the depth of flow over the weir crest to a maximum of 1 inch. However, if during dredging operations the depth of flow over a weir should reach a maximum depth of 2 inches or weir trough becomes drowned, dredging operations shall be halted until the depth of flow over the weir is reduced to 1 inch or less or drowning subsides, at which time dredging operations may resume.

3.2.3.3 Weir Length

Minimum weir lengths are specified as follows:

DREDGE DISCHARGE RATE	MINIMUM WEIR LENGTH
47 cfs	600 feet
40 cfs	520 feet
32 cfs	440 feet
26 cfs	360 feet

As an example, for a weir with a semicircular or rectangular cross section and both top edges at the required weir elevation, the lengths of both top

edges would be added to determine the total length of the weir.

The longest side of the weir shall be constructed no closer to the inside crown of the adjacent paralleling dike than 400 feet.

3.2.3.4 Multiple Structures

If multiple structures are constructed in the disposal area, the following distances shall be observed between the structures:

ADJACENT WEIR SIDE LENGTH	MINIMUM DISTANCE TO ADJACENT STRUCTURES*
180 feet	1,800 feet
220 feet	2,200 feet
260 feet	2,600 feet
300 feet	3,000 feet

*For weir side lengths other than those shown, the distance to adjacent structure(s) must not be less than ten times the weir length.

3.2.3.5 Drop Inlet Structure

The structure shall be a four-sided drop inlet weir closed by stop logs on one side. No side shall be less than 4 feet in length. All four sides of each drop inlet weir shall be constructed to and maintained at an elevation 1 foot above the weir's elevation crown prior to discharging in the disposal area drained by the structure. The stop logs shall not be installed on the dike side of the structure. The nine uppermost stop logs shall be no taller than 4 inches. Taller boards may be used for the remaining stop logs. The Contractor shall minimize leakage between the stop logs. The stop logs shall extend down to the elevation of the outlet invert, providing the capability for complete disposal area unwatering. Stop logs may be removed as necessary to protect the integrity of the dikes.

3.2.3.6 Weir Crest and Bottom Slope Tolerances

A tolerance of plus or minus 1/4 inch in elevation will be allowed along the length of the weir crest. The weirs shall be designed and constructed such that the top of the weir can be adjusted to maintain this plus or minus 1/4 inch tolerance during dredge pumping operations. Weirs will be constructed with adequate slope in the weir trough bottom to prevent drowning of the weir.

3.2.3.7 Dredge and Weir Capacities

The Contractor shall provide the dredge capacities to the Contracting Officer in cfs or gpm and the percent solids being pumped at the dredge for the maximum output. The capacity will be verified by a Contractor furnished nonintrusive constant recording flow meter. Flow will be recorded during all pumping operations. The weir flow can be verified with the weir flow equation ($Q=CLH^{1.5}$) at the pit. The coefficient for the equation will be 3.2 (Brator and King Sixth Edition, page 5-11). Ponding depth was based on a 4 day retention time with a 20 inch dredge pumping 32 cfs for 16-24 hrs pumping time with a minimum of 3 feet required for equipment floating within the pit. If dredge capacities exceed design parameters, the Contractor shall be required to provide a minimum 4 day retention time by increasingthe ponding depth using the table below. The bid package will include the proposed dredge capacity and correct ponding

depth from the following table.

DREDGE DISCHARGE VERSUS PONDING DEPTH
BY CONTAINMENT AREA SIZE

Flow-cfs	20	25	30	35	40	45	50	55
Flow-cy/hr	2666	3333	4000	4666	5333	6000	6666	7333
Flow-cy/day	64000	80000	96000	112000	128000	144000	160000	176000
Retention Time-24 Hours Pumping/Day								
40 Acres								
4 ft	4.03	3.22	2.69	2.30	2.01	1.79	1.61	1.46
5 ft	5.03	4.03	3.36	2.88	2.52	2.24	2.01	1.83
6 ft	6.04	4.83	4.03	3.45	3.02	2.69	2.42	2.20
7 ft	7.05	5.64	4.70	4.03	3.52	3.13	2.82	2.56
8 ft	8.06	6.44	5.37	4.60	4.03	3.58	3.22	2.93
60 Acres								
3 ft	4.53	3.63	3.02	2.59	2.27	2.01	1.81	1.65
4 ft	6.04	4.83	4.03	3.45	3.02	2.69	2.42	2.20
5 ft	7.55	6.04	5.03	4.32	3.78	3.36	3.02	2.75
6 ft	9.06	7.25	6.04	5.18	4.53	4.03	3.63	3.30
7 ft	10.57	8.46	7.05	6.04	5.29	4.70	4.23	3.84
80 Acres								
3 ft	6.04	4.83	4.03	3.45	3.02	2.69	2.42	2.20
4 ft	8.06	6.44	5.37	4.60	4.03	3.58	3.22	2.93
5 ft	10.07	8.06	6.71	5.75	5.03	4.48	4.03	3.66
100 Acres								
3 ft	7.55	6.04	5.03	4.32	3.78	3.36	3.02	2.75
4 ft	10.07	8.06	6.71	5.75	5.03	4.48	4.03	3.66
5 ft	12.59	10.07	8.39	7.19	6.29	5.59	5.03	4.58

3.2.3.8 Maintenance

The Contractor shall maintain the structures in good working order and fully operable condition throughout the entire contract. Weirs shall be maintained in good working order and fully operable throughout the period of disposal operations at a disposal facility.

3.2.4 Miscellaneous

All control structures, control members, and pipes shall remain Government property upon completion of the contract. During the performance of this contract, the Contractor shall remove water surface control members as necessary for mosquito control, sediment consolidation, and greater storage. These removed members shall be stored by the Contractor as directed. The Contractor shall not permanently pond water within the dredged material containment areas.

3.3 EFFLUENT RETURN SYSTEM

3.3.1 General

The Contractor shall design, construct, and maintain a return system to carry the dredge effluent flow from the disposal area outlet structure to the receiving stream to enter the receiving stream below its water surface and parallel with the water surface with a 3 outlet manifold system. Each system must convey flow into the river without deteriorating or eroding the bank. All damage and erosion between each disposal area and the river surface shall be satisfactorily corrected by the Contractor within 5 working days after the occurrence. If the effluent return system fails to operate as designed, dredging operations shall be halted until all deficiencies are corrected.

3.3.2 Effluent Return Ditch

The Contractor may elect to utilize existing ditches, construct new ditches, or utilize some other method upon approval. If existing ditches are used, the Contractor shall restore the ditches to their capacity prior to the Contractor's operations. The effluent return ditch shall be contained within the rights-of-way shown on the drawings. The design velocity in the return ditch shall not exceed 2 feet per second. Ditch protection, approved by the Contracting Officer, shall be provided by the Contractor at the location where dredge effluent flow enters the return ditch from the disposal area outflow structure and at any other locations in the return ditch where scour and erosion problems can occur.

3.3.3 Drainpipe

In each existing or newly constructed effluent return ditch, a drainpipe of sufficient diameter to collect all flow in the return ditch at a point prior to its confluence with the receiving stream and to divert the effluent flow under the receiving stream water surface a minimum of 5 feet and parallel to flow shall be installed. Effluent returned to the river through existing drainage structures with protected channels will require the construction of underwater return drainpipes. This drainpipe shall be constructed and maintained to prevent seepage of flow in the ditch around the pipe to the receiving stream. The drainpipe shall be installed in the effluent return ditch prior to any effluent discharge being pumped into the containment area. After the containment area has been unwatered, the Contractor shall remove the drainpipe structure from the effluent return ditch except where noted on the drawings to be left in place. Removed drainpipe structures shall remain the property of the Contractor.

3.3.4 Backwater

Backwater shall be confined to the limits of the effluent return ditch and shall not impede the design discharge of the effluent weir structure.

3.3.5 Damage to Existing Structures

The Contractor shall be responsible for any damage to flood gates and/or inlet and outlet channels and drainage ditches resulting from his operations.

3.4 TURBIDITY TESTING AND COMPLIANCE

a. The Contractor shall take daily turbidity readings in accordance with the procedures outlined in STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, 1989, 17th edition. A portable turbidimeter that is properly calibrated shall be adequate for taking the turbidity

readings. The testing sites shall be as follows:

(1) One-quarter mile upstream of the dredge.

(2) Immediately downstream of the effluent return confluence with the receiving stream.

(3) 750 feet downstream of testing Site 2.

(4) 750 feet downstream of dredge.

(5) 100 feet downstream of dredge.

Each week the Contractor shall submit signed and dated turbidity Testing Reports to:

U.S. Army Engineer District, Vicksburg
ATTN: CEMVK-ED-HW
4155 Clay Street
Vicksburg, MS 39183-3435
Telephone (601) 631-7221

b. If the turbidity exceeds the ambient turbidity by more than 50 NTU's on 2 consecutive days, the Contractor shall notify the Contracting Officer.

3.5 UNWATERING AND DITCHING

a. The Contractor shall delay unwatering of the disposal areas for 30 days after the last pumping into the disposal area. The disposal area unwatering shall be accomplished by removing only the uppermost stop log of the control structure until the disposal area has been unwatered (not to exceed 4 inches per 24 hours) to the elevation of the next stop log. This process shall be repeated until the disposal area is drained of all ponded water. In no case shall the Contractor allow settled dredged slurry to crest the stop logs.

b. Within 60 calendar days of unwatering the disposal area, the area shall be ditched as necessary to maintain the surface free of all standing water. The retaining dikes shall be breached to the elevation of the bottom of the perimeter ditches at intervals not exceeding 1,000 feet. Material from construction of the ditches and of the dike breaching shall be placed on the dikes.

3.6 DIKE MAINTENANCE

3.6.1 General

The Contractor shall maintain the retaining dikes against blowouts, leaks, erosion, and all other deterioration in order to maintain the integrity of the retaining dikes and to protect adjacent property.

3.6.2 Perimeter Ditches

Perimeter ditches shall be constructed as shown on the drawings.

3.7 DIKE FAILURE

If the retaining dikes fail, for any reason, during hydraulic dredging operations, the Contractor shall immediately cease pumping into the affected disposal area until the retaining dikes have been restored to the satisfaction of the Contracting Officer. The Contractor shall remove all material which is deposited in the dredged channel and in all other locations as a result of such failure. In the event the failure is caused through the fault or negligence of the Contractor, as determined by the Contracting Officer, restoration of the dikes and removal of material shall be by and at the expense of the Contractor. In the event the failure is not caused through the fault or negligence of the Contractor, payment for restoration of the dikes and for removal of material will be made in accordance with the Contract Clause CHANGES.

3.8 EFFLUENT SEDIMENTATION

3.8.1 Removal

In areas not yet accepted or not yet dredged, the Contractor shall remove all dredging effluent sedimentation from the channel at no expense to the Government. In areas previously accepted for payment, and in areas of the channel where no work is required, the Contractor shall remove, at no expense to the Government, all effluent sedimentation from the channel within 500 feet of the point where the effluent is returned to the channel.

3.8.2 Disposal

All excavated material shall be placed in the disposal area. Should the Contractor refuse, or delay compliance with the above requirement, such material may be removed by the Contracting Officer, and the cost of such removal may be deducted from any money due or to become due the Contractor.

3.9 ACCESS

3.9.1 Landowner Access

The Contractor shall provide all landowners access across his pipeline and dredge effluent return system during the performance of this contract and until the system is removed. Any pipes placed in ditches for access shall remain in place upon completion of this contract.

3.9.2 Public Roads

If influent or effluent piping crosses public roads, the Contractor shall be responsible for obtaining all necessary permits and permissions for conducting work on public road rights-of-way. (See the Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph RIGHT-OF-WAY and the Contract Clause entitled PERMITS AND RESPONSIBILITIES.)

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SECTION 02228

CHANNEL EXCAVATION

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SECTION 02228

CHANNEL EXCAVATION

PART 1 GENERAL

1.1 PROJECT/SITE CONDITIONS

Borings to determine the character of material to be removed have been made by the Government, and the results are shown and referred to in Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS. Although the results of the above mentioned explorations are representative of sub-surface conditions at their respective locations and for their respective vertical reaches, local minor variation in the subsurface materials such as logs, stumps, snags, and other debris are to be expected, and, if encountered, will not be considered as being materially different within the purview of the Contract Clause DIFFERING SITE CONDITIONS. Soil samples obtained by the Government are available for inspection at USAED Vicksburg, 4155 Clay Street, Vicksburg, Mississippi, 39183-3435, telephone (601) 631-5624.

1.2 STAGE LIMITATIONS

Because of the "flashy" nature of the Yazoo River, high water stages can be expected to occur intermittently depending on basin rainfall. Interruptions and/or delays to construction may occur when high water stages and/or velocities make construction operations impracticable. The Contracting Officer reserves the right to delay stone dike and paving operations whenever, in his opinion, high water stages and/or velocities make construction operations impracticable. As provided in Contract Clause entitled, DEFAULT, the time stated for completion of the work will be extended to such extent that the work is delayed due to high water stages and/or velocities. If part of the work is delayed or interrupted by high water stages and/or velocities, the time stated for completion will be extended to such extent as final completion of all work is delayed as a result of the partial delay or interruption. The Contractor is responsible for any additional costs which may occur during or as a result of excusable delays due to those extensions or interruptions.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 GENERAL

Channel excavation shall be to the depths, widths, and side slopes specified and defined on the drawings. The exact location of the channel enlargement will be determined by the Contracting Officer based on cross sections taken at the time of construction. Stumps and other debris removed during the excavation process shall be disposed of as provided in Section 02212 CLEARING AND GRUBBING, paragraph DISPOSAL OF DEBRIS. Side slopes shall conform to the provisions of paragraph EXCAVATION OF SIDE SLOPES. Smooth transitions in side slopes shall be provided for the following conditions:

(1) Where bank excavation changes from one side of the channel to the

other.

(2) Where changes in excavated side slopes are made to conform to existing side slopes.

(3) At upper and lower limits of channel work.

(4) Upstream and downstream of "No Work" areas.

3.2 EXCAVATION OF SIDE SLOPES

Final side slopes shall be as shown. Channel enlargement slopes that are above the water level shall be excavated prior to any hydraulic dredging and shall be excavated by any approved method or combination of methods necessary to obtain the required channel side slope. Excavation of the channel enlargement area above the water level shall precede the hydraulic dredging so as not to slow the normal advance of the hydraulic dredge, but shall be limited to a maximum of 500 feet ahead of the hydraulic dredge, unless otherwise approved by the Contracting Officer. When material from channel enlargement excavation is transported to the disposal area by land based means, this work may proceed independently of dredge operations. Excavated material from the slope dressing operations shall be disposed of in the material disposal areas shown. No additional right-of-way will be provided for this purpose by the Government. Hauling of material excavated above the water line is permitted. Channel enlargement excavation below water level shall be accomplished by hydraulic dredge. Dragline excavation of submerged material is specifically prohibited. For excavation of areas below the water level, the final side slopes may be obtained by "box-cut" dredging in vertical increments not to exceed 5 feet each. If "box-cuts" are used, the initial "box-cut" shall begin immediately below the water level. The Contractor shall maintain the required bottom grade and provide an equivalent cross-sectional area to that shown on the drawings. At no time shall the Contractor undercut the channel side slope and create a slide.

3.3 EXCESSIVE DREDGING

Except as provided for in paragraph EXCAVATION OF SIDE SLOPES and paragraph SLIDES, material removed outside the theoretical bottom elevation and side slope as indicated will not be paid for. The Contractor shall be responsible for damages caused by excessive dredging.

3.4 SLIDES

In the event sliding occurs in any part of the dredged channel excavation after its completion but prior to its acceptance, the Contractor shall remove such portions of the slide as directed and repair these areas to a stable side slope not steeper than those specified. In the event the slide is caused through the fault or negligence of the Contractor, such as undercutting, as determined by the Contracting Officer, the slide shall be removed and the area repaired by the Contractor at his expense. In the event the slide is not caused through the fault or negligence of the Contractor, payment for removal and repair of the area will be made in accordance with the Contract Clause CHANGES.

3.5 SHOALING

In the event shoaling occurs in any part of the channel excavation after completion but prior to acceptance of the channel excavation, the

Contractor shall remove such portions of the shoal material as the Contracting Officer may direct. The Contractor shall supply sufficient plant to be made available on a timely basis for the purpose of shoal removal.

3.6 PLANT

3.6.1 Dredging Equipment and Attendant Plant

The Contractor shall keep on the job sufficient dredging equipment and attendant plant necessary to meet the requirements of the work. The dredging equipment and attendant plant shall be in satisfactory operating condition and capable of safely and efficiently performing the work as set forth in the specifications and shall be subject to inspection by the Contracting Officer at all times. No reduction in the capacity of the dredge and attendant plant employed to execute the work shall be made except by written permission of the Contracting Officer.

3.6.2 Radio Telephones

3.6.2.1 General

The Contractor shall furnish space for 24" wide x 41" high x 18" deep VHF FM radio transceiver and provide a power source of 115 VAC, 60 Hz, 5 AMPS. The Contractor shall maintain the Government-furnished and installed radio equipment throughout the period of the contract. Final approval of the plant cannot be made until this equipment has been installed and placed in good working order by the Government. The Contractor shall notify the Government at least 15 days in advance of the scheduled beginning date of dredging operations.

3.6.2.2 Government-Furnished Antenna and Radio Transceiver

The Government will install a Government-furnished antenna and a radio transceiver in the spaces previously specified before dredging work is started. The Government will also remove and retain possession of the antenna and the radio transceiver when the work has been completed. The Government will specify the frequency to be used and communications on this frequency shall be limited to Government business necessary to expedite the work performed under this contract. The use of the Government-furnished radio transceiver after expiration of the contract constitutes a violation of the Federal Communications Commission's rules and regulations.

3.6.2.3 Contractor-Furnished Radio Transceiver

The Contractor shall furnish and maintain throughout the contract time, one FM ship's radio transceiver with power not in excess of 25 watts and at least 15 watts output on the maritime frequencies of 156.800 (Channel 16) and 156.650 (Channel 13) MHz 16F3 emission, with plus or minus 5 KHz at 100 percent modulation for communication concerning navigation in the vicinity of the dredge and to be operated in accordance with FCC regulations.

-- End of Section --

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SECTION 02229

CHANNEL EXCAVATION - LAND BASED

SECTION 02229

CHANNEL EXCAVATION - LAND BASED

PART 1 GENERAL

1.1 REGULATORY REQUIREMENTS

The regulatory requirements listed below form a part of this specification to the extent referenced. The regulatory requirements are referred to in the text by basic designation only.

MISSISSIPPI BUREAU OF POLLUTION CONTROL (MS BPC)

MS BPC-01 Division of Air Pollution Control
P. O. Box 10385
Jackson, Mississippi 39204
Telephone: 1-601-961-5171

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 EXCAVATION

3.1.1 General

The excavation shall consist of the removal and disposal of all materials of whatever nature encountered that may be necessary to construct the channel to the lines, grades and sections shown with the exception that materials at and below the water surface must be excavated by means of hydraulic dredging. Materials may be removed by any approved means which will accomplish the desired results. A working tolerance of 0.5 feet, vertically, either above or below the theoretical excavation limits will be permitted provided the area of the finished section is not less than the area of the theoretical section.

3.1.2 Location

The work shall be laid out so that the channel enlargement will, in general, be as shown. The exact location of the channel enlargement will be determined by the Contracting Officer based on surveys taken at the time of construction. A smooth transition for changes in side slopes and bottom widths as designated by the Contracting Officer shall be provided where bank excavation changes from one side to the other, at the lower and upper ends of work and at the no work reaches.

3.1.3 Disposal of Excavated Material

Excavated material shall be disposed of by placing it in the disposal area shown. Acceptance of the disposal area by the Contracting Officer is required before disposal operations can begin in the disposal area. Stumps, logs and other debris removed during the excavation process shall be disposed of in accordance with Section 02212 CLEARING AND GRUBBING - DISPOSAL AREAS AND CHANNEL, paragraphs DISPOSAL OF DEBRIS.

3.2 SLIDES

In case sliding occurs in any part of the land based channel excavation, during its construction or after its completion but prior to its acceptance, the Contractor shall remove such portion of the slide as the Contracting Officer may direct. In case the slide is caused through the fault or negligence of the Contractor, the slide shall be removed without cost to the Government. In case the slide is not caused through the fault or negligence of the Contractor, he will be paid for removing it in accordance with the Contract Clause CHANGES. In case sliding occurs in the excavated material disposal areas prior to acceptance, the Contractor shall remove, at no expense to the Government, such portions of the slides as extend channelward of the limiting distance for placing excavated material (as shown or as designated in the field) and any material that extends outside the right-of-way limits.

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DIVISION 02 - SITE WORK

SECTION 02232

DIKES

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SECTION 02232

DIKES

PART 1 GENERAL

1.1 EMBANKMENT

The locations and dimensions of the dike embankment shall be as shown.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 General

The retaining dike embankment shall be constructed of earth obtained from inside the disposal area, return ditches, required channel excavation above the water line in accordance with Section 02229 CHANNEL EXCAVATION-LAND BASED, paragraph EXCAVATION OF SIDE SLOPES, and other required excavations within the limits shown. The embankment shall be constructed of earth that is free from unsuitable and frozen materials as defined in paragraphs UNSUITABLE MATERIALS and FROZEN MATERIALS. Material classified by the Unified Soil Classification System (as shown on the Boring Legend) as gravels (GW, GP, GM) and sands (SW, SP, SM) shall not be used for dike construction unless suitably blended with less pervious material to the extent that it no longer classifies as these materials.

2.1.2 Unsuitable Materials

Materials which are classified as unsuitable for embankment are defined as masses of organic matter, sticks, branches, roots, and other debris.

2.1.3 Frozen Materials

Under no circumstances shall frozen earth, snow, or ice to be placed in the dike embankment. The Contracting Officer may require the wasting of frozen material in order that construction may proceed and such material wasted, if directed by written order of the Contracting Officer will be paid for in accordance with the Contract Clause CHANGES.

2.2 EQUIPMENT

The following are equipment requirements for embankment construction.

2.2.1 Tamping Rollers

2.2.1.1 Tractor-Drawn

Tractor-drawn tamping rollers shall consist of one or more units. Each unit shall consist of a cylindrical drum not less than 60 inches in length and not less than 60 inches in diameter. Each drum shall have staggered feet uniformly spaced over the cylindrical surfaces so as to provide approximately 3 tamping feet for each 2 square feet of drum surface. The tamping feet shall be 7 to 11 inches in clear projection from the cylindrical surface of the roller, and shall have a face area of not less

than 5 nor more than 10 square inches. The drums shall be water or sand and water ballasted. The weight of the roller when fully loaded shall not be less than 3,500 pounds per linear foot of drum length and when empty shall not be more than 2,500 pounds per foot of drum length. The Contractor will be required to vary the amount of ballast in the drums to obtain optimum compaction effort for the material being compacted. The roller shall be equipped with cleaning devices, so designed and attached as to prevent the accumulation of material between the tamping feet. These cleaning devices shall be maintained at their full length and correct alignment throughout the periods of use of the roller. The rolling units of multiple-type tamping rollers shall be pivoted on the main frame in a manner which will permit the units to adapt themselves to uneven ground surfaces and to rotate independently. The roller shall be pulled by a tractor at a speed not to exceed 3.5 miles per hour.

2.2.1.2 Self-Propelled

At the option of the Contractor, self-propelled tamping rollers may be used in lieu of tractor-drawn tamping rollers provided these rollers conform to the towed roller requirements for the length and spacing of tamping feet, the empty weight per foot of drum, and cleaning devices. However, self-propelled rollers exceeding the empty weight requirement may be used, provided that by substitution of tamping feet having a face area not exceeding 14 square inches, the nominal foot pressure on the tamping feet of the self-propelled roller can be adjusted to approximate the foot pressure of the towed roller for the particular working conditions. Self-propelled rollers conforming to the above requirements but with tamping feet exceeding the 14 square inch maximum face area may be approved for use provided the Contractor demonstrates to the satisfaction of the Contracting Officer by field tests performed in accordance with the provisions of paragraph ALTERNATIVE COMPACTION EQUIPMENT that the roller can properly compact the fill without creating planes of weakness or laminations. For the self-propelled rollers in which steering is accomplished through the use of rubber-tired wheels, the tire pressure shall not exceed 40 pounds per square inch. The roller shall be operated at a speed of not more than 3.5 miles per hour.

2.2.2 Rubber-Tired Rollers

Rubber-tired rollers shall have a minimum of four wheels per axle equipped with pneumatic tires. The tires shall be of such size and ply as to be capable of being operated at tire pressures between 80 and 100 pounds per square inch at 25,000-pound wheel load. The roller wheels shall be located abreast and so designed that each wheel will carry approximately equal load in traversing uneven ground. The spacing of the wheels shall be such that the distance between the nearest edges of adjacent tires is not greater than 50 percent of the rated tire width of a single tire. The roller shall have a rigid steel frame provided with body suitable for ballast loading so that the load per wheel may be varied, as directed by the Contracting Officer, from 18,000 to 25,000 pounds. The roller shall be towed at speeds not to exceed 5 miles per hour.

2.2.3 Crawler-Type Tractors

Crawler-type tractors used for spreading or compaction shall weigh not less than 20,000 pounds, shall exert a unit tread pressure of not less than 6 pounds per square inch, and shall be operated at speeds not to exceed 3.5 miles per hour when being used for compaction. The tractor will not be considered to be compacting while spreading material.

2.2.4 Alternative Compaction Equipment

The Contractor may propose for use alternative types of compaction equipment not included in these specifications. The suitability of the alternative equipment must be demonstrated to the Contracting Officer by a field test conducted by and at the expense of the Contractor. The alternative compaction equipment must be capable of properly compacting the soil so that no planes of weakness or laminations are formed in the fill. The field test shall consist of compacting a minimum of three layers of an area of embankment with the alternative type equipment. Testing and inspection of the area shall then be performed by the Contractor at no additional cost to the Government. Procedures for construction and testing the area will be provided by the Contracting Officer. Each proposed alternative type of equipment must be capable of compacting a layer of soil not less than 12 inches thick. A minimum of four complete passes over each layer of the test fill will be required for each type of alternative equipment that is allowed for use, unless in the course of constructing the test fill the Contractor is able to demonstrate that proper compaction can be obtained with fewer passes. Alternative type equipment shall be operated at speeds not to exceed 3.5 miles per hour. If sufficient previous testing has been performed on the alternative compaction equipment proposed by the Contractor to verify the suitability of the equipment to the Contracting Officer's satisfaction, the Contracting Officer may determine that the above specified field test is not required.

2.2.5 Miscellaneous Equipment

Scarifiers, disks, spring-tooth or spike-tooth harrows, spreaders, power tampers, and other equipment shall be types suitable for construction of dike embankment.

2.2.6 Sprinkling Equipment

Sprinkling equipment shall be designed to apply water uniformly and in controlled quantities to variable widths of surface.

PART 3 EXECUTION

3.1 FOUNDATION PREPARATION

3.1.1 General

After clearing and grubbing, the entire earth surface on or against which embankment is to be placed shall be thoroughly broken to a depth of 6 inches. If for any cause, this broken surface becomes compacted in such a manner that, in the opinion of the Contracting Officer, a plane of seepage or weakness might be induced, it shall again be adequately scarified before depositing material thereon. All scarifying and breaking of the ground surface shall be done parallel to the centerline of the dike. All of the foregoing work shall be completed at least 200 feet, but not greater than 500 feet, in advance of the embankment.

3.1.2 Drainage

All areas receiving fill and all partially completed fill shall be kept thoroughly drained.

3.1.3 Frozen Ground

No fill shall be placed upon frozen ground.

3.2 EMBANKMENTS

3.2.1 General

The retaining dikes shall be constructed to the lines, grades and sections shown. Fill shall not be placed in water. The materials for fill shall be placed or spread in layers, the first layer not more than 6 inches in thickness and the succeeding layers not more than 12 inches in thickness prior to compaction. Layers shall be started full out to the slope stakes and shall be carried substantially horizontal and parallel to the dike centerline with sufficient crown or slope to provide satisfactory drainage during construction. Benching into the slope of an existing embankment is required in order to place and compact the material in horizontal layers. The vertical face of the existing embankment resulting from the benching operation shall be a minimum of 1 foot in height but shall not exceed 2 feet in height. When the surface of any compacted layer is too smooth to bond properly with the succeeding layer, it shall be adequately scarified before the next layer is placed thereon.

3.2.2 Moisture Control

It is intended that the borrow material for retaining dikes shall be placed in the dike embankment at its natural moisture content.

3.2.3 Compaction

Each layer shall be compacted by any of the following methods at the option of the Contractor:

a. Tamper-Type Roller

Four complete pass over each layer will be required. Each pass of the tamping roller shall overlap the preceding or adjacent pass by not less than 1.0 foot.

b. Rubber-Tired Roller

Two complete pass over each layer will be required.

c. Crawler-Type Tractor

Three complete pass over each layer will be required. The tractor will not be considered to be compacting while spreading materials.

3.2.3.1 Definition of Pass

A pass shall consist of one complete coverage of the surface of a layer by the treads of the roller, tractor, or other compacting equipment. Portions of the embankment which the compacting equipment cannot reach for any reason shall be compacted by an approved method to the density at least equal to that of the surrounding embankment.

3.2.3.2 Additional Compaction

If the desired compaction of any portion of the embankment cannot be secured by the minimum number of passes specified, the Contracting Officer

may direct additional complete passes shall be made over the surface area of such designated portion until the desired compaction has been obtained, and an equitable adjustment in the contract price and time will be made.

3.2.4 Grade Tolerances

Retaining dike embankments shall be constructed to the grade and cross section shown on the drawings. At all points, a tolerance of 5/10 of 1 foot above the prescribed grade and cross section shown will be permitted in the final dressing provided that the crown of the dike drains, there are no abrupt humps or depressions in surfaces or bulges in the width of the crown, and the side slopes are uniform.

3.2.5 Zoning of Materials

In general, the dike embankment section shall be homogeneous; however, where materials of varying permeabilities are encountered in the borrow areas, the more impervious material shall be placed toward the inside or riverside slope and the more pervious material shall be placed toward the outside or landside slope of the dike embankment.

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DIVISION 02 - SITE WORK

SECTION 02543

BANK STABILIZATION

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SECTION 02543

BANK STABILIZATION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 127	(1988; R 1993) Specific Gravity and Absorption of Coarse Aggregate
ASTM C 295	(1990) Petrographic Examination of Aggregates for Concrete
ASTM C 33	(1997) Concrete Aggregates

CORPS OF ENGINEERS (COE)

COE CRD-C 144	(1973) Testing Stone for Resistance to Freezing and Thawing
COE CRD-C 169	(1993) Resistance of Rock to Wetting and Drying

1.2 GENERAL REQUIREMENTS

These specifications provide for furnishing all equipment, labor, and materials and performing all work in strict accordance with the specifications, and drawings. The work covered by these specifications requires steady and uninterrupted progress during construction. The Contractor shall diligently prosecute the work and provide the necessary equipment, skilled and experienced crew, and a regular and well-balanced supply of materials to insure uniform and continuous progress once construction has been started.

Except as provided in paragraph STAGE LIMITATIONS and Section 00800 SPECIAL CONTRACT REQUIREMENTS, paragraph COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK, the Contractor will not be permitted to suspend work after the work has been started or remove any equipment from the location of any work under this contract without prior approval of the Contracting Officer.

Excavating ramps through top bank will not be permitted within 25 feet of the limits of any stabilization work or existing bridges, roads, or houses. Unless otherwise directed, upon completion of construction, all ramps shall be restored to the original bank condition and provided with necessary treatment for erosion control.

Unless otherwise authorized, the Contractor shall start and complete the work as specified in paragraph CONSTRUCTION SEQUENCE.

The work to be performed is indicated on the drawings and includes the

following types of work:

(1) Clearing, grubbingfor placement of stone, debris removal, excavation, and backfilling.

(2) Constructing a longitudinal peaked stone dike.

(3) Constructing transverse stone dikes.

(4) Bank paving.

(5) Erosion control.

(6) Outlet drains.

1.3 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Gradation Test; FIO. Evaluation Tests; FIO.

The gradation tests shall be submitted using the GRADATION TEST DATA SHEET enclosed at end of this section.

Quality test on the stone in accordance with paragraph EVALUATION TESTING shall be the responsibility of the Contractor and submitted for approval prior to delivery of such material to the worksite.

SD-13 Certificates

Riprap; FIO. Laboratory; FIO.

Certificates of compliance attesting that the materials meet specification requirements shall be submitted to the Contracting Officer.

A copy of the testing laboratory's certification and inspection report shall be submitted along with actions taken to correct deficiencies.

1.4 STAGE LIMITATIONS

Because of the "flashy" nature of the Yazoo River, high water stages can be expected to occur intermittently depending on basin rainfall. Interruptions and/or delays to construction may occur when high water stages and/or velocities make construction operations impracticable. The Contracting Officer reserves the right to delay stone dike and paving operations whenever, in his opinion, high water stages and/or velocities make construction operations impracticable. As provided in Contract Clause entitled, DEFAULT, the time stated for completion of the work will be extended to such extent that the work is delayed due to high water stages and/or velocities. If part of the work is delayed or interrupted by high water stages and/or velocities, the time stated for completion will be extended to such extent as final completion of all work is delayed as a result of the partial delay or interruption. The Contractor is responsible for any additional costs which may occur during or as a result of excusable

delays due to those extensions or interruptions.

1.5 CONSTRUCTION SEQUENCE

Unless otherwise authorized, the sequence of operations listed below shall be followed for the bank stabilization work. See also Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph ORDER OF WORK.

(1) Construction of the sites shall be in the following order, unless otherwise authorized by the Contracting Officer:

(1) Site 160.86
(2) Site 158.77
(3) Site 158.07
(4) Site 157.02
(5) Site 153.45

(2) All bank stabilization construction shall begin at the upstream end of the job site and proceed to the downstream end of the job as directed by the Contracting Officer.

(3) Debris removal, clearing and grubbing.

(4) Construction of longitudinal peaked stone dike.

(5) Perform the grading for dikes and other incidental excavation.

(6) Construction of the transverse stone dikes and bankheads shall follow the grading as closely as practicable. Grading and stone placement operations shall be limited to one site at a time, unless otherwise authorized by the Contracting Officer.

(7) Erosion control shall follow, as closely as practicable, completion of all other work in the area to receive erosion control.

1.6 EXISTING STRUCTURES

No structures, power poles, telephone poles, overhead telephone and power lines that are within the limits of the work will be relocated and the Contractor will be required to work around those items except the items, if any, that are specified in Section 01000 GENERAL CONTRACT REQUIREMENTS, paragraph PUBLIC UTILITIES.

1.7 STONE STORAGE

Stone delivered to the work sites which requires temporary storage landward of top bank, shall be placed in a container suitable for storing the stone without waste, or a sand-clay-gravel pad may be constructed for the dumping area and removed upon completion of the work. If the sand-clay-gravel pad method is used, the pad shall have a minimum thickness of at least six inches. The container or sand-clay gravel pad method shall be subject to approval by the Contracting Officer prior to delivery of the stone. Upon completion of the work, the storage area shall be cleaned of all storage residues and returned to its natural condition. Temporary storage of stone at the work site will be allowed, provided the river side toe of the stone be no closer than 100 linear feet to the closest edge of the river's top bank, and the amount shall not exceed 600 tons unless otherwise approved by the Contracting Officer. Temporary storage must be within the construction rights-of-way, unless the contractor provides his own area(s), at which

time, the area(s) shall be approved by the Contracting Officer. Temporary storage of stone at the work site is not to be confused with off-site stockpiling of stone. If the Contractor elects to provide off-site stockpile areas, the Contracting Officer shall be notified by the Contractor of all such areas.

PART 2 PRODUCTS

2.1 STONE

2.1.1 General

Only quarried stone shall be used. Stone quality shall be specified in paragraph GOVERNMENT TESTING AND STUDIES, subparagraph STONE. A maximum of 10 percent flat and elongated pieces will be acceptable. A flat and elongated piece of stone is defined as a stone with either the width or thickness of the piece being less than one-third of the length.

2.1.2 Graded Stone

2.1.2.1 Graded Stone "C"

Graded Stone "C" shall meet the gradation requirements shown on ENG FORM 4794-R, GRADATION, GRADED STONE C, attached at the end of this section.

2.1.3 Evaluation Testing

If the Contractor proposes to furnish stone from an unlisted source, the Contractor shall have evaluation tests performed on stone samples collected from the proposed source. The tests to which the stone shall be subjected include petrographic examination ASTM C 295, specific gravity, unit weight, and absorption ASTM C 127, resistance of stone to freezing and thawing COE CRD-C 144, and if sandstone is used, resistance to wetting and drying in accordance with COE CRD-C 169.

a. Unit Weight and/or Absorption. Stone shall weigh more than 155 lbs/cubic foot. The stone shall have an absorption less than 2 percent unless other tests and service records show that the stone is satisfactory. The method of test for unit weight and absorption will be ASTM C 127, except the unit weight will be calculated in accordance with Note 5 using bulk specific gravity, saturated surface dry.

b. Resistance to Freezing and Thawing. Stone when tested in accordance with COE CRD-C 144 shall have a loss of less than 5 percent.

c. Resistance to Wetting and Drying. This test shall only be required to be performed on sandstone samples. When tested in accordance with COE CRD-C 169 (35 cycles), there shall be a loss of less than one percent.

d. Samples. Samples of stone from a source not listed at the end of this section shall be taken by a representative of the quarry under the supervision of the Contracting Officer for testing and acceptance prior to delivery of any stone from this source to the site of the work. Samples shall consist of at least three pieces of stone, roughly cubical in shape and weighing not less than 75 pounds each. The samples shall be shipped at the Contractor's expense to a laboratory certified by the Government to perform the required tests.

e. Tests. The tests shall be conducted by the Contractor in accordance with applicable Corps of Engineers methods of tests given in the Handbook for Concrete and Cement, and shall be performed at a laboratory certified by the Government. The cost of testing shall be borne by the Contractor.

2.1.4 Gradation Test

The Contractor shall perform a gradation test on stone at the quarry in accordance with paragraph STANDARD TEST METHOD FOR GRADATION OF RIPRAP AND GRADED STONE. The sample shall be taken by the Contractor in the presence of the Contracting Officer's Representative. The Contractor shall notify the Contracting Officer not less than 3 days in advance of each test. In the event of nonavailability of a Government representative; the Contractor shall perform the tests and certify to the Contracting Officer that the stone shipped complies with the specifications. At least one gradation test shall be performed for each 25,000 tons of Graded Stone "C" of each size of stone placed, but not less than one test shall be performed. The gradation tests shall be reported using forms GRADATION TEST DATA SHEET and ENG FORM 4794-R, attached at the end of this section. The Contractor shall designate on the test form that portion (in tons) of the lot tested which is applicable to this contract. Any deviation from the reported tonnage shall be corrected and recorded on a revised GRADATION TEST DATA SHEET. The sample shall consist of not less than 15 tons of Graded "C", and shall be collected in a random manner which will provide a sample which accurately reflects the actual gradation arriving at the jobsite. Gradation test shall be made for each gradation specified. Failure of the test on the initial sample and on an additional sample will be considered cause for rejection of the quarry and/or quarrying process, and all stone represented by the failed tests shall be set aside and not incorporated into the work. Any additional tests required because of the failure of an initial test sample will not be considered as one of the other required tests. If collected by the truckload, each truckload shall be representative of the gradation requirements. The Contracting Officer may direct additional testing of the stone at the project site if the stone appears by visual inspection, to be out of gradation. The Contracting Officer may direct this testing under the Contract Clause INSPECTION OF CONSTRUCTION. The Contractor shall provide all necessary screens, scales, and other equipment, the operating personnel, and shall grade the sample. Certification and test results shall represent stone shipped from the quarry. Certification and test results must be received by the Government representative at the jobsite before the stone is used in the work.

2.2 BEDDING MATERIALS

2.2.1 General

The bedding stone and sand shall meet the quality requirements of ASTM C 33. The bedding stone is not readily available from all the sources listed at the end of this section.

2.2.2 Gradation

2.2.2.1 Bedding Stone

The gradation of the bedding stone shall conform to the 1990 edition of Mississippi Standard Specifications for Road and Bridge Construction, Section 703, "Aggregates". Bedding stone shall be crushed stone only.

Sieve Size	Percent Passing Size No. 57
1-1/2 inch	100
1 inch	80-100
1/2 inch	25-60
No. 4	0-10
No. 8	0-5

2.2.2.2 Bedding Sand

The gradation of the bedding sand shall conform to the 1990 edition of Mississippi Standard Specifications for Road and Bridge Construction, Section 704, "Aggregate for Drainage", type C filter material.

Sieve Size	Percent Passing
1/2 inch	100
No. 4	80-100
No. 16	37-90
No. 50	7-30
No. 100	0-7

2.2.2.3 Bedding Stone and Bedding Sand

Bedding Stone and Bedding Sand shall be well-graded between the limits shown. All points on individual grading curves obtained from representative samples of bedding material shall be between the boundary limits as defined by smooth curves drawn through the tabulated grading limits plotted on a mechanical analysis diagram. The individual grading curves within the limits shall not exhibit abrupt changes in slope denoting either skip grading or scalping of certain sizes or other irregularities which would be detrimental to the proper functioning of these materials. Gradation tests of crushed stone and sand shall be accomplished at the source of the respective material by the Contractor in the presence of the Contracting Officer's Representative. A minimum of one test will be required for each 750 tons of each size of aggregate purchased. The tests results should be furnished to the Government by telephone within 24 hours and certified records of test furnished as required by Section 01000 GENERAL CONTRACT REQUIREMENTS paragraph CERTIFICATES OF COMPLIANCE. Each test sample shall be representative of the aggregate being shipped and consist of not less than 25 pounds for crushed stone and 10 pound for the sand. Failure of the test on the first sample and on one additional sample will be considered cause for rejection of the source and/or the method of processing the aggregate. All aggregate represented by the failed tests shall be set aside and not incorporated into the work. The initial sample for testing will be obtained when the first shipment of material is being loaded. The second and subsequent test will be conducted during the progress of the work.

2.3 EROSION CONTROL MATERIALS

All materials used in erosion control shall be as specified in Section 02960 EROSION CONTROL.

2.4 STREAMBED SAND AND/OR GRAVEL

Sources of streambed sand and/or gravel used in the backfill of holes in the channel bottom and/or banks may be obtained from the river bed within

the right-of-way limits shown on the drawings or from any other source provided by the Contractor and approved by the Contracting Officer.

2.5 BACKFILL MATERIAL

Backfill material shall be streambed sand and/or gravel. Backfill material shall be obtained in the work reaches within the right-of-way limits of the site as shown on the contract drawings. Any other source of backfill material proposed by the Contractor is subject to the approval of the Contracting Officer. If, in the opinion of the Contracting Officer, sufficient suitable materials are not available for backfill at the site, the Contractor will provide the materials form a suitable source and an equitable adjustment will be made under the Contract Clause CHANGES.

2.6 INSPECTION OF MATERIALS

Materials will normally be inspected at the work site as they are incorporated into the work. Copies of invoices or shipping tickets showing quarry or origin shall be furnished the inspector at time of delivery of stone.

PART 3 EXECUTION

3.1 GRADING FOR STONE PLACEMENT

Where indicated on the drawings, the natural ground shall be graded to provide for placement of stone. The finished grade shall conform to the prescribed grade within the limits of plus or minus 6 inches, and shall present a neat, smooth surface, free from all obstructions.

3.2 BORROW EXCAVATION

The Contractor shall excavate suitable material from the streambed for backfill as specified in paragraph STREAMBED SAND AND/OR GRAVEL and paragraph BACKFILL MATERIAL. The Contracting Officer reserves the right at all times to specify the area(s) from which materials shall be procured, and the depths to which the excavation shall be made.

3.3 BACKFILL

Backfill required to fill holes shall be composed of existing streambed sand and/or gravel. This backfill is necessary to support longitudinal peaked stone dikes when the placement of the stone passes over such holes.

3.4 GENERAL

Within the limits indicated on the drawings, a longitudinal peaked stone dike and stone dikes shall be constructed to the elevations and cross sections shown on the construction drawings.

3.5 STONE PLACEMENT

3.5.1 Bank Paving For Dike Bankheads

Stone bank paving shall be Graded Stone "C". The bank paving stone may be back dumped from dump trucks; placed by skip, clamshell, or other approved method; and spread by bulldozing except that pushing stone down the slope will not be permitted. The stone shall be placed in such a manner to achieve a minimum of segregation of sizes in the in-place bank paving

stone, with uniform gradation from the bottom of the slope to the top elevation of the stone as indicated on the drawings. For stone bank paving, a tolerance of 6 inches above and below the specified bank paving thickness will be allowed provided the area of the finished section is not less than the area of the theoretical section. To prevent overtopping of the paved portion of the slope by rising river stages, the Contractor shall place bank paving in strips parallel to the water's edge when directed by the Contracting Officer. The Contractor shall be responsible for any damage to the graded bank or paving occasioned by such overtopping of the paving because of failure to keep paving operations above the water surface.

3.5.2 Placing Stone in Dikes

The longitudinal peaked stone dike and transverse dikes shall be constructed of Graded Stone "C" to the lines, grades, and sections shown and as noted on the drawings. Construction of the longitudinal peaked stone dike and transverse dikes shall commence at the upstream end and continue progressively to the downstream end. The initial work shall consist of a stone blanket approximately 2 feet thick and extending over the full width and length of the dike. If stone is placed by land based equipment, this stone blanket is not required. The remaining stone required to complete the underwater portion of the dike shall be placed from the shoreward to the riverward end of the dike in approximately uniform layers not exceeding 5 feet in thickness and extending over the full width and length of the dike. The portion of the dike above the water may be placed in one lift. The stone shall be placed in the dikes by skip or clamshell, cast off barges by hand or machine, or by other methods approved by the Contracting Officer. The larger stone shall be well distributed throughout the mass, and the finished dike shall be free from pockets of small stone and clusters of larger stone. A tolerance of plus or minus 1 foot will be allowed on the prescribed crown elevation and width. The side slopes shall be determined by the natural angle of repose of the stone, varying from 1V on 1.25H to 1V on 2H. Stone delivered on-site shall be contained as specified in paragraph STONE STORAGE.

3.6 BACKFILL

Those portions of dikes which are landward of high top bank shall be backfilled as shown on the drawings. The backfill shall be accomplished by placing streambed sand and/or gravel over the stone landward of high top bank, applying a sufficient quantity of water to disperse this material into the voids in the stone, leaving a minimum thickness of 6 inches of sand and/or gravel over the stone, then completing the backfill using material obtained from excavation for the dikes. Backfill material which contains 25 percent or more of material finer than sand shall be placed in layers not to exceed 2 feet in thickness, and each layer shall be compacted by one complete pass of a bulldozer weighting not less than 20,000 pounds and exerting a tread pressure of not less than 6 psi. Sand is defined as material passing a No. 4 sieve and retained on a No. 200 sieve. Backfill composed of sand and/or gravel may be placed in lifts of any thickness, and no special compaction will be required. The backfill shall be sloped to drain landward and graded to a smooth surface transitioning into surrounding surfaces.

3.7 OUTLET DRAINS

Where required, outlet drains shall be constructed. The drains shall conform to the natural drainage of the bank where possible, but shall not endanger the integrity of the bank stabilization measures. The drain(s)

shall be paved with 15 inches of stone paving and shall be 2 feet in depth with 1V on 2H side slopes. A layer of 6 inch thick bedding stone shall be placed between natural ground and the drain stone paving. Where the outlet drains must be constructed of silts and silty sands, a 6 inch layer of bedding sand shall be placed underneath the bedding stone. All locations of outlet drains shall be approved by the Contracting Officer.

3.8 TESTS

3.8.1 General

The Contractor shall perform gradation tests to assure compliance with the contract requirements and shall maintain detailed records.

3.8.2 Reporting

Reporting shall be in accordance with paragraph GRADATION TEST

3.8.3 Standard Test Method for Gradation of Riprap and Graded Stone

a. Select a representative sample (Note No. 1), weigh and dump on hard stand.

b. Select specific sizes (see example) on which to run "individual weight larger than" test. (See Note No. 2). Procedure is similar to the standard aggregate gradation test for "individual weight retained".

c. Determine the largest size stone in the sample. (100 percent size)

d. Separate by "size larger than" the selected weights, starting with the larger sizes. Use reference stones, with identified weights, for visual comparison in separating the obviously "larger than" stones. Stones that appear close to the specific weight must be individually weighed to determine size grouping. Weight each size group, either individually or cumulatively.

e. Paragraph d above will result in "individual weight retained" figures. Calculate individual percent retained (heavier than) cumulative percent retained and cumulative percent passing (lighter than). Plot percent passing, along with the specification curve on ENG Form 4794-R.

NOTE NO. 1: Sample Selection: The most important part of the test and the least precise is the selection of a representative sample. No "standard" can be devised; larger quarry run stone is best sampled at the shot or stockpile by given direction to the loader; small graded stone is best sampled by random selection from the transporting vehicles. If possible, all parties should take part in the sample selection, and agree before the sample is run, that the sample is representative.

NOTE NO. 2: Selection of Size for Separation: It is quite possible and accurate to run a gradation using any convenient sizes for the separation, without reference to the specifications. After the test is plotted on a curve, then the gradation limits may be plotted. Overlapping gradations with this method are no problem. It is usually more convenient, however, to select points from the gradation limits, such as the minimum 50 percent size, the minimum 15 percent size, and one or two others, as separation points.

F O R

E X A M P L E

O N L Y

EXAMPLE GRADATION
SPECIFICATIONS

STONE WEIGHT IN LBS.	PERCENT LIGHTER BY WEIGHT
400-160	100
160-80	50
80-30	15

EXAMPLE WORKSHEET

STONE SIZE LBS.	INDIVIDUAL WT. RETAINED	INDIVIDUAL PERCENT RETAINED	CUMULATIVE PERCENT RETAINED	PERCENT PASSING
400	0	0	0	100
160	9,600	30	30	70
80	11,200	35	65	35
30	8,000	25	90	10
-30	3,200	10	100	-
TOTAL	32,000 lbs.			

NOTE: Largest stone 251 lbs.

-- End of Section --

STONE SOURCES

LAT/LONG (TESTED)	QUARRY LOCATION, ADDRESS AND TELEPHONE NUMBER	MAIN OFFICE ADDRESS AND TELEPHONE NUMBER
	ALABAMA	
34/88 (1995)	Allsboro Quarry is located 8 miles east of intersection of MS Hwy 25 and Tishomingo County Rd 957 at Midway, MS, just across AL state line. Hoover Incorporated P.O. Box 613 Iuka, MS 38852 (205) 360-2400	Hoover Incorporated 1205 Bridgestone Parkway P.O. Box 17000 LaVergne, TN 37086-17000 (615) 793-2600
34/87 (1995)	Cherokee Quarry is located 3 miles east of Cherokee, AL on old Hwy 72.	Vulcan Materials Co. P.O. Box 459 Cherokee, AL 35616 (205) 359-6404
	ARKANSAS	
34/92 (1997)	Granite Mountain Quarry #1 is located on east side of Hwy 65 and just north of Dixie Road	McGeorge Corporation P.O. Box 138 Sweet Home, AR 72164 (501) 490-1535
36/91 (1995)	Valley Stone Quarry is located 4.5 miles northwest of Black Rock, AR off U.S. Hwy 63	Meridian Aggregates Co. P.O. Box 260 Black Rock, AR 72415 (870) 878-6201
34/95 (1996)	River Mountain Quarry is located approx. 5 miles northwest of Delaware, AR, at AR River Mile 218.5.	Pine Bluff Sand and Gravel P.O. Box 7008 Pine Bluff, AR 71611-7008 (870) 534-7120
	KENTUCKY	
37/87 (1996)	Cedar Bluff Quarry is located 3 miles south of Princeton, KY on KY. Hwy 91. The Kentucky Stone Co. 10234 Hopkinsville Rd. Princeton, KY 42445 (502) 365-6881	The Kentucky Stone Co. P.O. Box 7529 Louisville, KY 40207 (502) 897-1731
37/88 (1996)	Three Rivers Quarry is located 7 miles northeast of Smithland, KY, off Hwy 60 (Cumberland Road)	Martin Marietta Aggregates 830 Three Rivers Quarry Rd. Smithland, KY 42081 (502) 928-2141

STONE SOURCES
(Continued)

LAT/LONG (TESTED)	QUARRY LOCATION, ADDRESS AND TELEPHONE NUMBER	MAIN OFFICE ADDRESS AND TELEPHONE NUMBER
37/88 (1996)	Gilbertsville Quarry is located on U.S. Hwy 62 "Between the Dams" Lake City, KY.	Vulcan Materials Co. Reed/BRT Operations 947 U.S. Hwy. 62 Grand Rivers, KY 42045 (502) 362-4265
	MISSOURI	
37/89 (1995)	Gray's Point Quarry is located at MRM 46.2, above the mouth of the Ohio River.	Tower Rock Stone Co. P.O. Box 50 Columbia, IL 62236 (618) 281-4106
	Tower Rock Stone Co. P.O. Box 4248 Scott City, MO 63780 (573) 264-3800	
38/90 (1995)	Bussen Quarry is located 5 miles north of St. Genevieve, MO, MRM 127.6, above the mouth of the Ohio River.	Tower Rock Stone Co. P.O. Box 50 Columbia, IL 62236 (618) 281-4106
	Tower Rock Stone Co. P.O. Box 111 St. Genevieve, MO 63670 (573) 883-7415	

G R A D A T I O N T E S T D A T A S H E E T

Quarry _____ Type of Stone Tested _____

Date of Test _____ Testing Rate _____

T E S T R E P R E S E N T S

Contract No.	District	Tons
	TOTAL	

G R A D A T I O N

Stone Size (lbs)	Weight Retained	Individual % Retained	Cumulative % Ret.	Cumulative % Pass	Specification % Finer by wt
Total Wt					

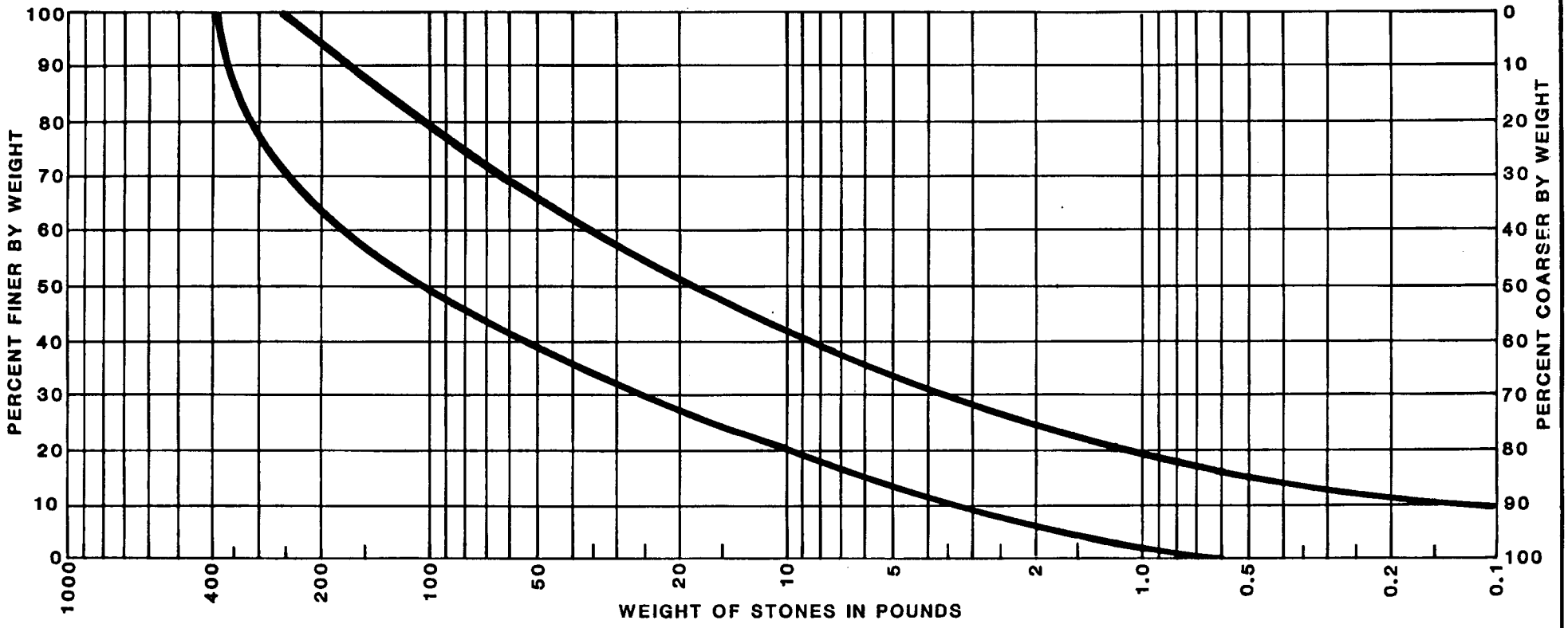
Remarks: _____

I certify that the above stone sample is representative of the total tonnage covered by this test report.

Contractor Representative _____

Government Representative _____

LMV FORM 602-R



STONE WEIGHT POUNDS	CUMULATIVE % FINER BY WEIGHT
400	100
250	70–100
100	50–80
30	32–58
5	15–34
1	2–20
less than 1/2" max. dimension	0–10

NOTE: 5% of the material can weigh more than 400 pounds. However no piece shall weigh more than 500 pounds.

GRADATION

GRADED STONE C

SEPTEMBER 1976

PLATE II

SECTION TABLE OF CONTENTS

DIVISION 02 - SITE WORK

SECTION 02960

EROSION CONTROL

-- End of Section Table of Contents --

SECTION 02960

EROSION CONTROL

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Data

Fertilizer; FIO.

The Contractor shall submit signed copies of invoices from suppliers which show quantities and the percentages of nitrogen, phosphorous, and potash.

1.2 AREAS TO RECEIVE EROSION CONTROL

All disturbed areas within the construction limits of the bank stabilization sites, the outside slope of the retaining dike of the disposal area, and all disturbed areas within the construction rights-of-way landward of a line 20 feet riverward of the new top bank shall receive erosion control as specified herein.

PART 2 PRODUCTS

2.1 FERTILIZER

Fertilizer shall meet the requirements of the State of Mississippi for commercial fertilizer. Fertilizer shall have a minimum analysis of 13 percent nitrogen, 13 percent phosphorus, and 13 percent potash (13-13-13). Duplicate signed copies of invoices from suppliers shall be furnished to the Contracting Officer upon delivery to the worksite. Invoices shall show quantities and percentages of nitrogen, phosphorus, and potash.

2.2 SEED

Grass seeds shall be labeled in accordance with the U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of purchase. The seed shall have a minimum purity of 90 percent and a minimum germination rate of 80 percent. Seeding mixtures shall be in accordance with the following:

2.2.1 Alternative A

If seeding is done during the period of 1 March through 30 September, the seeding mixture shall consist of a uniform mixture of 20 pounds of Bahia and 20 pounds of Bermuda Grass (hulled) seed per acre.

2.2.2 Alternative B

If seeding is done during the period of 1 October through 28 February, the

seeding mixture shall consist of a uniform mixture of 50 pounds of Rye and 25 pounds of Bermda Grass seed (unhulled) per acre.

2.3 MULCH

The mulch shall be a vegetative mulch consisting of grain straw (oats, wheat, or rice) or grass hay.

PART 3 EXECUTION

3.1 EROSION CONTROL

3.1.1 Dressing

The areas to receive erosion control shall be dressed by the cutting off of high points and the filling of depressions to the extent necessary to provide a reasonably smooth surface that can be readily traveled by a farm tractor pulling a rotary type mower.

3.1.2 Application

After dressing, the areas to receive erosion control shall be fertilized and seeded. Fertilizer shall be uniformly distributed at a rate of 200 pounds per acre over areas to be seeded and shall be incorporated into the soil to a depth of at least 4 inches by disking, harrowing, or other acceptable methods. After dressing has been completed and fertilizer incorporated, surfaces shall be seeded by uniformly distributing the applicable mixture of grass seed specified in paragraph SEED per each acre. After the seed has been distributed, the entire finished surface shall be compacted by two passes of a conventional tractor-drawn cultipacker.

3.2 MULCHING

Mulching shall be performed within 24 hours after seeding. Mulch shall be applied uniformly on the soil surface at the rate of 1-1/2 tons (approximately 60 bales) per acre. Mulch shall be anchored into the soil with a mulch crimper. The mulch crimping equipment shall have straight, notched, dull blades no more than 10 inches apart and shall be equipped with scrapers. The mulching material shall be anchored at least 1 inch into the soil. Anchoring the mulch shall be performed along the contour of the ground surface. The mulch shall be applied by means of approved equipment suitable for such work.

-- End of Section --